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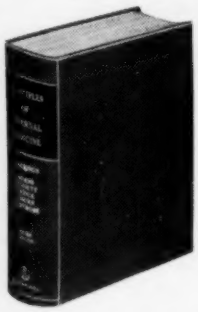

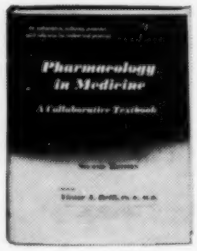

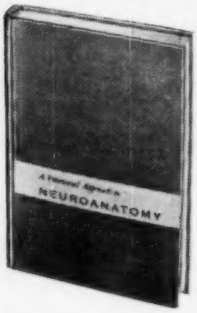

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Galley proofs will be mailed to authors for correction before publication and should be returned within 48 hours after receipt.

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News from the Medical Schools: Material for this section should be transmitted to the News Editor, Miss Neva Resek, 2530 Ridge Avenue, Evanston, Illinois. Announcements of major faculty and administrative appointments, news of distinguished visitors and significant educational developments will be included. It is not possible to publish notices on grants-in-aid for scientific research.

Items of Current Interest: Audio-visual news and notices from national and federal agencies appear in this section.

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GALLAGHER'S
MEDICAL CARE OF THE ADOLESCENT

By **J. ROSWELL GALLAGHER**, M.D.
Chief, Adolescent Unit, The Children's Hospital Medical Center, Boston,
Lecturer on Pediatrics, Harvard Medical School

With **THE STAFF PHYSICIANS**
The Adolescent Unit, The Children's Hospital Medical Center, Boston

This new book is about adolescents themselves and the many illnesses, injuries, and personality difficulties experienced by boys and girls between the ages of 12 and 21. It is directed to all who care for their health: general practitioners, pediatricians, internists, various other specialists, college and school physicians, public health workers, nurses, and medical students. In short, it hopes to be of value to all who are concerned with the maintenance, improvement, or restoration of adolescents' health.

The conditions which affect adolescents' health are described in detail. The purpose has been to include subjects which are particularly pertinent to the care of this age group, to comment upon material which is not readily available elsewhere, and to discuss conditions which are so frequently encountered in this age group that not to mention them would be a gross oversight. Each topic is oriented to the care of adolescents and to emphasize those of its aspects which are of special relevance to adolescents' care.

Since adolescents are very different from children and from adults, considerable attention is devoted to describing their physiologic and their psychologic characteristics and needs and in pointing out how these affect the evaluation, the treatment, and the management of their disorders.

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71st Annual Meeting, October 31–Nov. 2, 1960
Diplomat Hotel, Hollywood, Fla.

1960

JUNE

AMERICAN NEUROLOGICAL ASSOCIATION, Hotel Statler, Boston, June 13–15. Dr. Melvin D. Yahr, 710 W. 168th St., New York 32, Secretary.

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SOCIETY OF NUCLEAR MEDICINE, Estes Park, Colo., June 22–25. Dr. Thad P. Sears, Veterans Administration Hospital, Denver 20, Chairman.

JULY

AMERICAN GOITER ASSOCIATION, Royal College of Surgeons, London, England, July 5–9. Dr. John C. McClintock, 149½ Washington Ave., Albany 10, N.Y. Secretary.

AMERICAN SOCIETY OF FACIAL PLASTIC SURGERY, Hotel Elysee, New York City, July 22. Dr. Samuel M. Bloom, 123 E. 83d St., New York 28, Secretary.

AUGUST

AMERICAN CONGRESS OF PHYSICAL MEDICINE AND REHABILITATION, Mayflower Hotel, Washington, D.C. Aug. 21–26. Mrs. Dorothea C. Augustin, 30 N. Michigan Ave., Chicago 2, Executive Secretary.

AMERICAN HOSPITAL ASSOCIATION, Civic Auditorium, San Francisco, Aug. 27–Sept. 1. Mr. Maurice J. Norby, 18 E. Division St., Chicago, Assistant Director.

CONFERENCE ON THE CHEMICAL ORGANIZATION OF CELLS: NORMAL AND ABNORMAL, University of Wisconsin, Madison, Aug. 25–27. Dr. J. F. A. McManus, Dept. of Pathology, University of Alabama Medical Center, Birmingham, Chairman.

GERONTOLOGICAL SOCIETY, INC., Mark Hopkins Hotel, San Francisco, Aug. 7–12. Mrs. Marjorie Adler, 660 S. Kingshighway Blvd., St. Louis 10, Administrative Secretary.

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SEPTEMBER

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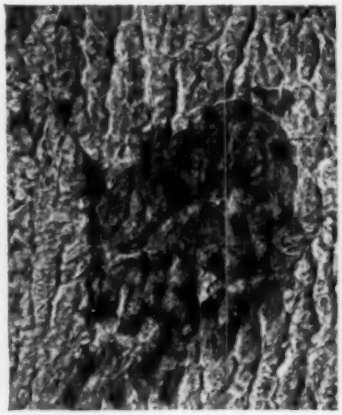
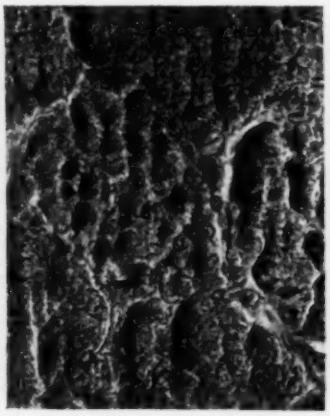
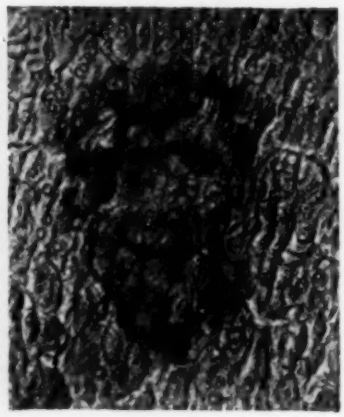


Before:
Microphotograph showing insulin granules in beta cells of pancreas of normal dog.



During:
Degranulation following administration of Orinase. Note complete release of native insulin.



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1. Gorman, C. K., and Weaver, J. A.: Brit. M. J. 2:1214 (Dec. 5) 1959.
2. Case data courtesy Henry Dolger, M.D.

*TRADEMARK, REG. U. S. PAT. OFF.—TOLBUTAMIDE, UPJOHN

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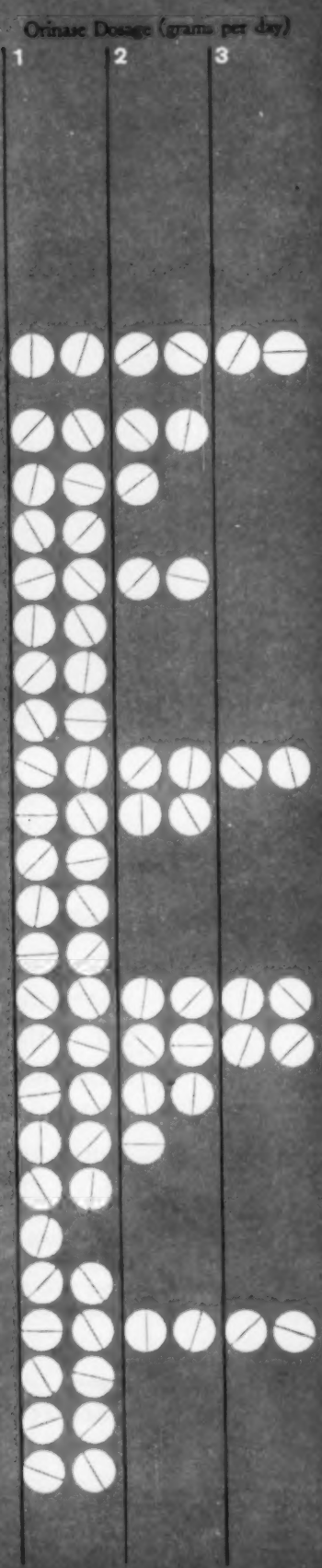
a three-year case history[2]

Date	Entries and Comments
6/21/56	Mr. J. S., 54 yrs. old, diabetes mellitus 1½ yrs. F. H.—neg. for diabetes. P. H.—surg. 0, med. 0. Restaurant manager—M., 3 children living and well. Wt. 155 lb. 1 yr. ago; now 125. P. I.—onset 1½ yrs. ago with thirst and polyuria; glycosuria found. On diet. In past year lost 30 lb., strict diet—all kinds of dietetic substitutes. Some asthenia. Afraid of insulin. No recent glycosuria or nocturia. P. Exam.—thin male. Fundi neg. ENT neg. BP 140/80. Heart and lungs neg. Extremities: poor pulses. Urine—sugar 0, acetone 0. Noon blood sugar 240. Rx more adequate diet and Orinase 3 Gm.
7/9/56	Wt. 127, urine 0-0. B. S. 110, occ. nocturia but no glycosuria. Rx: eat more, Orinase 2 Gm.
8/29/56	Wt. 139½, urine 0-0-0. B. S. 205. Rx 1.5 Gm.
10/1/56	Wt. 143, urine 0-0-0. B. S. 125. Rx 1 Gm.
11/5/56	Wt. 148, urine 4+ -0-0, noon B. S. 160. Rx 2 Gm.
12/7/56	Wt. 146, urine 0-0-0, noon B. S. 120. Rx 1 Gm.
1/11/57	Wt. 144½, urine 0-0-0, noon B. S. 150. Rx 1 Gm.
3/11/57	Wt. 144½, urine 0-0, noon B. S. 120. Rx 1 Gm.
5/10/57	Wt. 140½, urine 4+ -0-0. B. S. 275. Rx 3 Gm.
6/12/57	Wt. 138½, urine 0-0-0, noon B. S. 114. Rx 2 Gm.
8/7/57	Wt. 136½, urine 0-0-0. B. S. 100. Rx 1 Gm.
10/2/57	Wt. 136½, urine 0-0-0. B. S. 85. Rx 1 Gm.
11/20/57	Wt. 136½, urine 0-0-0. B. S. 123. Rx 1 Gm.
1/17/58	Wt. 134¾, urine 4+ -0-0. B. S. 216. Rx 5 Gm.
2/14/58	Wt. 132, urine 0-0-0. B. S. 135. Rx 3 Gm.
3/28/58	Wt. 136½, urine 0-0-0, noon B. S. 93. Rx 2 Gm.
5/5/58	Wt. 138, urine 0-0-0. B. S. 112. Rx 1.5 Gm.
6/16/58	Wt. 137, urine 0-0-0. B. S. 93. Rx 1 Gm.
8/11/58	Wt. 138, urine 0-0-0, noon B. S. 152. Rx 0.5 Gm.
10/20/58	Wt. 134, urine 3+ -0-0. B. S. 220. Rx 1 Gm.
11/24/58	Wt. 131½, urine trace -0-0. B. S. 251. Rx 3 Gm.
2/18/59	Wt. 134, urine 0-0-0. B. S. 120. Rx 1 Gm.
4/9/59	Wt. 157½, urine 0-0-0. B. S. normal. Rx 1 Gm.
6/5/59	Wt. 138, urine 0-0-0. B. S. normal. Rx 1 Gm.



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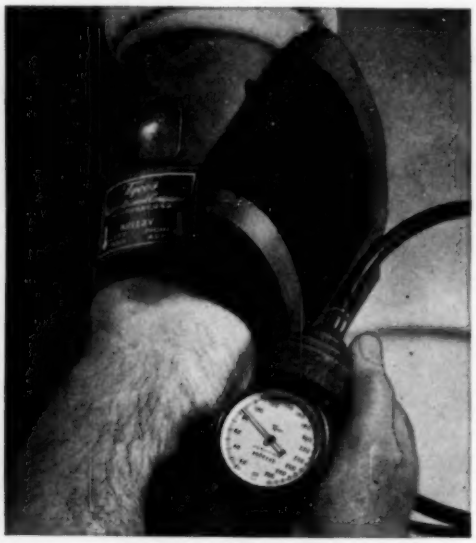

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—HENRY LONSDALE: A Sketch of the Life and Writings of Robert Knox, the Anatomist. London: Macmillan & Co., 1870, pp. 138-39.

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The Journal of MEDICAL EDUCATION

VOLUME 35 • NUMBER 6 • JUNE, 1960

Home Care in Medical Education

A Preliminary Assessment of the Cornell Home Care Program

LAWRENCE S. SONKIN, M.D., PH.D.*

Comprehensive Care and Teaching Program, The New York Hospital-Cornell Medical Center, New York, N.Y.

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* Instructor in Medicine, Cornell University Medical College.

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I. INTRODUCTION

Medical education in the United States has periodically undergone major reorganizations of content and method. Partly as a result of the changes brought about by the Flexner Report, contemporary curricula of medical schools are admirably suited to impart a vast and growing body of scientific information. Many curricula, however, are not equally well suited for teaching preventive medicine and total patient care (10). Over 30 years ago Francis Peabody (14) maintained that a complete teaching program depends on the integration of scientific principles with the art of medical care. In order that the student learn this art he must develop individualized relationships with his patients, which require repeated contacts over a prolonged period. Yet often students are exposed to each of the clinical disciplines in rapid succession, encountering only briefly points in a stream of patients in various wards and clinics who are presented as instances of disease. Under this arrangement the student undoubtedly reinforces his basic clinical knowledge and acquires occasional new facts; but his relationships with patients tend to be discontinuous, short, and superficial. He has little opportunity to understand or deal with patients' environmental problems or personality factors, even when these may significantly affect the occurrence, course, and management of illness. His opportunity to cultivate clinical judgment is also limited, since he can only rarely follow a patient long enough to observe the results of various therapies (2).

To help remedy these and related defects in the clinical training of students a variety of measures have been proposed by medical educators. This report describes and evaluates experience at The New York Hospital-Cornell Medical Center with one such measure: student participation in a hospital-centered program of home care. In 1952 an experimental Comprehensive Care and Teaching Program (CC&TP) for fourth-year medical students was inaugurated at the Center. It provided students with an opportunity for continuous patient care for 22½ weeks in the Out-Patient Clinics under the auspices of the Departments of Medicine, Pediatrics, Psychiatry, and Preventive Medicine (2, 12, 15–19). Nursing and Social Service, all laboratory facilities of the Hospital, as well as consultants from Obstetrics and Gynecology and from Surgery were available to the students to aid in the care of their patients when necessary.

This arrangement provided an unusual opportunity to introduce and investigate the value of extramural resources in teaching. Accordingly, a Home Care Program was developed as an integral part of the experiences offered to students in the CC&TP.

Types of home care programs.—The New York Hospital-Cornell Medical Center is not, of course, unique in sponsoring a Home Care Program. Attempts to improve teaching, rising costs of hospital care, and the growing need for methods of dealing with long-term illness in an aging population have combined to stimulate widespread interest in the development of home care as a function of general hospitals.

Essentially four types of programs have been devised. The first type is purely a service program. It may be supported by

private or municipal funds and is perhaps best exemplified by the Montefiore Home Care Program (4). Physicians on full- or part-time salary from the hospital provide medical care to selected patients at home. Another type is oriented toward both teaching and service. It is under the auspices of one or more teaching departments of a hospital, often Medicine or Preventive Medicine. Resident physicians or advanced undergraduate students supervised by instructors provide patients with medical care at home and are expected to learn useful lessons therefrom (1). The Cornell Program is of this type. A third type is the family health advisor program, which enables medical students to visit and observe families at home without assuming major responsibility for medical care. It is exemplified by the 4-year program at the University of Pennsylvania (9). Teaching rather than service is the main objective of these endeavors, and such programs are not truly for patient care. A fourth type of home care program is service-oriented but not hospital-centered. Sponsored by community agencies such as the Visiting Nurse Association of Philadelphia, it coordinates therapeutic and rehabilitative services for the patients of practicing physicians in the community (25).

The total number of home care programs has been small, but some valuable lessons have been gained from them in terms of costs and methods of administration. One of the first studies was done in 1940–1942 by Jensen, Weisskotten, and Thomas at the University Hospital in Syracuse (11). The study which was terminated early in World War II revealed that continued care of discharged chronically ill patients at home by a hospital resident was an economical and feasible procedure which often forestalled frequent readmission to the hospital.

Thirty home care programs of general hospitals were recently listed by Shindell (23). The majority have provided less comprehensive services than those of Montefiore Hospital, and medical students have not been included as participants in most of these programs. A more detailed description of several programs was recently published by the U.S. Public Health Service (25).

In 1953, home teaching programs in eleven medical colleges were described in a symposium at the annual meeting of the Association of American Medical Colleges (5). Only eight of these were designed to give medical care to patients; the remainder represented some version of the health advisor type of program. The length of service proposed for each student was 1 month or less in all except the programs at Cornell and the University of Tennessee (22). The latter program involved visits to the home under the supervision of a general practitioner, as part of a program of family care that covered the students' last year in medical school. The NYU-Bellevue Medical Center program provided 5 months of experience for the students in prepaid group medical care which started with student observation and was followed by an increasing degree of participation (22, p. 51). The students were responsible to the program during two 3-hour sessions weekly. This experience would seem to fall somewhere between the family health advisor role and the complete and continuous responsibility required by a program providing full medical care.

Nature of the report.—This report is a description of the activities and tentative evaluation of the results of The New York Hospital-Cornell Medical Center Home Care Program during *its first two years* as an organized section of the Comprehensive Care and Teaching Program. This period extended from July, 1953, to July, 1955, during which time the author was Director of Home Care. Prior to 1953 home care services for a few patients had been individualized by the Resident Physician in the CC&TP, Dr. Peter Rogatz. Dr. Lila Wallis succeeded the author as full-time Director, and since 1956 Dr. F. T. Kirkham has been in charge of Home Care on a part-time basis assisted by resident physicians of The New York Hospital. Dr. Kirkham's follow-up report will be found on pages 504–9.

Evaluation of the Cornell Program is based on the criteria stated by Barr (2): Can the program provide case material worthy of a senior medical student's attention? Is continuity of care possible under such a program? Can medical instruction be accomplished in a home care program without undue distortion of the remainder of the senior curriculum? Can the program be readily copied by other medical colleges? How much does such a program cost?

Attainment of these criteria is difficult to measure exactly, but this report will provide some information on each of these points and will form a basis for some tentative opinions. The methods of study used include analysis of patient records, observation of student activity by the author and members of the CC&TP staff, assessment of student attitudes by means of a questionnaire, and an analysis of costs carried out by Dr. Peter Rogatz. Description of the methods and discussion of the findings comprise the bulk of this report. Before considering these questions, however, the organization and operation of the program will be described.

II. ORGANIZATION OF THE CORNELL PROGRAM

The arrangements for home care described in this section refer specifically to the 1954–55 academic year, when plans and activities evolved during the preceding 2 years of operation reached fruition.[1] During those first 2 years (1952–54) the Home Care Program functioned on a relatively small scale; the patient load was deliberately geared to the limited amounts of time available to CC&TP staff members for supervising the home visits of students. In 1954 a grant from the Commonwealth Fund permitted desirable staff expansion and allowed an increase in the number of patients who could be feasibly carried on home care. At the same time, greater systematization of admission and discharge policies, record-keeping, student conferences, and other procedures connected with home care was accomplished.

Personnel and Services

Physicians.—The director of Home Care was an instructor in the Department of Medicine of the Medical College and a full-time staff member of the CC&TP. He spent approximately half his time on Home Care and devoted the remainder to regular clinic teaching, student seminars, and related CC&TP activities. He was immediately responsible for Home Care teaching and service activities to the director of the CC&TP (an internist), who in turn was responsible to an interdepartmental Advisory Committee[2] for coordination and supervision of the CC&TP as a whole.

The director of Home Care was assisted in the supervision of students by four instructors, in addition to residents and fellows; three instructors had appointments in the Department of Medicine, and two had appointments in the Department of Pediatrics. All were on the full-time staff of the CC&TP, but each spent a relatively small part of his time on Home Care. Consultants from the Departments of Surgery, Psychiatry, Obstetrics and Gynecology, and Preventive Medicine with part-time appointments in the CC&TP were available to students and staff. Consultation service could also be obtained for other physicians in the Medical Center who were not directly connected with the program.

Nursing services were rendered by the Visiting Nurse Service of New York and by members of the Medical and Pediatric nursing staff of the Out-Patient Department of New York Hospital. The full-time nursing coordinator of the CC&TP was available to the medical students and staff in the clinic

[1] For a slightly earlier description of the Cornell Program, see Hospital Council of Greater New York, *Organized Home Medical Care in New York City* Cambridge: Harvard University Press, pp. 430–45, 1956.

[2] Composed of the Chiefs of the Clinical Services, the Professor of Preventive Medicine, the Director of Social Service, the Chairman of the Out-Patient Department Committee, the Director of the Hospital, the Dean of the Medical College, the Dean of the Nursing School, and the Director of the Joint Administrative Board of the Medical Center.

to help them evaluate patients' nursing needs and meet these through the appropriate use of clinic or Public Health Nurses. Approximately a third of her time was spent with the Home Care Program. She usually talked with the patient and/or his family and conferred with nurses who had provided care previously on the ward or in the clinic. Her findings were presented at the intake meeting where doctor, nurse, and social worker decided on the suitability of the patient for Home Care and formulated a tentative plan of management, which almost always included a referral to the Visiting Nurse Service (VNS) and occasionally a verbal discussion with a supervisor of that agency before the patient entered the program.

Medical orders to the Visiting Nurse Service were written by the medical students who first discussed their patients' nursing problems with the coordinator. Using the Greater New York Interagency Referral Form they wrote their instructions, comments, and questions to the Visiting Nurse who would be administering and supervising the family nursing care at home. These referral forms with pertinent notations by the clinic nurse and social worker were mailed to the Visiting Nurse Service of New York who, after one or more visits, returned a carbon copy of the report with the Visiting Nurse's comments regarding progress and needs of the patient as she saw them. As the students became familiar with the public health nurse's activities their referrals showed an increased number of requests to teach patients and their families as well as to do for them.

Other responsibilities of the Nursing Coordinator to the Home Care Program included participating in the weekly rounds and patient care seminars. She also prepared equipment and demonstrated the use thereof. She maintained a Home Care loan closet and physician's bag for emergency needs and visited hospitalized Home Care patients to maintain liaison and prepare patient and family to cope with new nursing needs on return to the home.

Social Services were rendered by members of the New York Hospital Department of Social Service. The full-time Social Service Coordinator of the CC&TP maintained social service data on the broader aspects of the Home Care program, participated in conferences connected with Home Care, and was available for consultation with students on specific problems. She provided liaison with the regular hospital social workers who evaluated each prospective patient. This evaluation included interviews with the patient and responsible relatives to determine the patient's attitude to his illness and his wish to be treated at home, as well as the relatives' willingness and ability to provide both emotional and material support for the patient. The assessment usually included a visit to the patient's house. The same social worker continued to follow the patient and his family to provide whatever service was indicated.

Laboratory services.—All laboratory services of the New York Hospital were available to Home Care patients and were paid for out of the Program's funds. Blood and urine specimens were usually obtained by the student in the home and brought to the hospital. A small teaching laboratory with a full-time technician maintained by the CC&TP provided facilities for all routine clinical blood and urine examinations and many chemical tests. The students were encouraged to use it whenever possible and to observe or participate in the determinations on specimens from their patients. When x-ray examinations were required, the patient was transported to the New York Hospital.

Emergency service.—Through a rotation system, one of the physicians on the full-time staff was on call for emergencies at all times. Patients called the home care office during weekdays from 8:30 A.M. to 5:00 P.M. At all other times they called the number of a telephone exchange through which the physician on call could be reached. If an emergency home visit appeared necessary the physician contacted the responsible student and instructed him to make a visit.

The student was either requested to meet the instructor in the patient's home or asked to report to the instructor by telephone immediately after he had seen the patient. On the occasions when hospitalization appeared necessary the instructor arranged transportation to the New York Hospital Emergency Room, where he met the patient and student. The home care physician was empowered to direct admission to the Hospital whenever necessary and on short notice.

Participation of students.—Students were assigned Home Care patients when, or as soon as possible after they started the course in Comprehensive Medicine. Since the number of students exceeded the number of patients available at any given time, those without patients were assigned in rotation as new patients were admitted to Home Care.

Admission to Home Care.—No patient with a private physician was considered for admission to Home Care unless specifically referred by the private physician. Any hospital or community agency could refer patients to Home Care. When a referral was received the director saw the candidate. Hospital patients were seen before discharge; out-patients and those who had never been to New York Hospital were seen initially in the clinic. If necessary, the patient's transportation to the clinic was arranged at the expense of Home Care. It was agreed that no patient would be considered for admission to Home Care without a complete examination within the hospital walls, because of the difficulty in examining patients thoroughly at home. Infrequent instances where this rule had been set aside almost invariably led to difficulty. When families requested an emergency visit to a patient unknown to Home Care and refused to bring the patient to the hospital, they were advised to summon a private physician or a city ambulance.

Every patient admitted to Home Care was visited within 24 hours following admission by the student physician *and* instructor. Subsequently, the student visited as frequently as necessary and at least every 2 weeks. He notified the instructor of his findings after each visit and recorded them in the hospital chart. He might make minor modifications in therapy on his own initiative, but any major change required discussion with the instructor, who also accompanied the student whenever any procedure or injection was to be performed. The student was permitted to draw blood without direct supervision. Whenever the senior physician accompanied the student he attempted to act as a consultant, allowing the student as much professional responsibility as was feasible.

Area served.—Patients were accepted for Home Care only if they lived in or near the New York Hospital district, in order to avoid excessive expenditure of students' time in travel.

Records.—The New York Hospital maintains a unit record system, in which all out-patient and in-patient notes are bound in a single consecutive chart. A record of each Home Care admission was incorporated as part of the chart. As soon as the patient entered Home Care his entire hospital record was filed in the Home Care office. Current records were maintained in binders separate from the old chart and stored in a standard type of hospital chart rack.

The student wrote a complete admission note within 24 hours of his first home visit. This note contained age, sex, occupation, chief complaint, present illness, family, past and personal histories, review of systems, complete physical examination, formulation, summary, diagnosis, full treatment, and prognosis. A progress note was written by the student after each visit to the patient. The social worker and nurse wrote notes whenever the patient or family was contacted by them. A standard hospital laboratory sheet summarized the results of all tests done on Home Care. Carbon copies of the Interagency Referral sheets sent to and from the Visiting Nurse were kept in the chart, as well as copies of all correspondence

pertaining to the admission. When the patient was discharged a summary was written, and the entire chart was returned to the record room of the New York Hospital. There the Home Care notes were bound as part of the consecutive record.

A special face sheet was maintained on each Home Care chart on which were recorded diagnoses, treatment, the date of each home visit, the names, addresses, and telephone numbers of the patient and responsible physicians, and a statement of the time taken for each home visit. Thus, the student's care in following his patient could be determined almost at a glance. The face sheets provided a valuable permanent record for the Home Care files after the patient's discharge. They were not bound in the unit record.

Transportation.—Whenever transportation by foot or bus required longer than 10 minutes each way, the student was requested to use a taxi cab, for which he was reimbursed. In this way undue waste of student time was avoided. If the senior physician detected from the face sheet of the chart that the student was spending an excessive amount of time on his visits, he attempted to determine the cause in order to reduce the time to a reasonable level. On the other hand, it was also possible to tell if a patient was receiving too little attention.

Charges to patients.—Since most of the patients were indigent no charge was made for visits or services. The Home Care Program reimbursed the Hospital for any laboratory tests, drugs, or equipment which were used. Visiting Nurse Service charges were made directly to the patients according to their ability to pay. Details of these costs are presented in the Appendix. This differed from the policy in other Home Care Programs served by the VNS where the physicians were billed by VNS rather than the patients. The cooperation of the Visiting Nurse Service of Greater New York is gratefully acknowledged.

The Program occasionally paid for special nursing care when blood transfusions were administered in the home. The student physician started the transfusion and, after an appropriate period of initial observation, left the patient under the care of a private duty nurse, who telephoned the student and/or instructor in the event of need and who reported to the Home Care Office when the transfusion was completed.

Supervision.—An experienced practitioner, who was a part-time attending physician in the Department of Medicine, met with the director of Home Care once each week to review special problems. A different practitioner was assigned every 3 months. Physicians on the full-time staff met with the nurses and social worker for half an hour each week in order to review the charts.

The director of Home Care conducted a 1-hour chart conference each week with all the students who had patients on Home Care and was thus assured of seeing each student with a case at least once a week. These weekly conferences afforded special didactic opportunities, since problems in medical care could be considered at times when they were immediately pertinent to current experiences of the students. Diverse subjects such as clinical findings, course and management of uremia, diabetes, rheumatism, vascular disease, cirrhosis, amyotrophic lateral sclerosis, anticoagulant therapy, community resources, and physician-patient relationships were among the many topics which received emphasis. A conference might emphasize the problems of a single patient or a group of related problems. Experts were invited to the meetings when appropriate. Students were encouraged to comment on one another's cases from week to week in order that the group might benefit from each individual's experience.

Autopsies.—Whenever a patient died at home the nearest of kin was requested to grant permission for autopsy. The Home Care Program paid the undertaker to transport the body to the New York Hospital on

the way to the funeral home. The student was urged to be present at the autopsy.

III. OPPORTUNITIES FOR LEARNING

Evaluation of the opportunities for learning in a teaching program might evoke a variety of criticism, since it is improbable that any group of educators could agree completely on what and how medical students should learn during the final year of their training. Concurrence would be almost certain, however, that (*a*) a program should provide case material with a broad range of major diagnostic categories, (*b*) the patients should present a variety of problems in medical care, and (*c*) the program should offer adequate facilities for the application of up-to-date diagnosis and therapy. Especially important in this program of Comprehensive Medical Care was the question (*d*) whether continuity of care could be achieved on the Home Care Program. The opportunities provided in these four categories were assessed by summarizing the following data from the medical records of Home Care patients.

Case Material

The success of a clinical teaching program depends largely on the type of case material available for instruction. For this reason patients were carefully evaluated for teaching potentialities before acceptance by the Home Care Program. Three principles governed the choice of cases: (*a*) The patient must require Home Care. It would be a simple matter to build a large census of Home Care patients who could be managed adequately in the Out-Patient Department. However, this procedure would obviously create an artificial and meaningless exercise for the students. In the few instances when patients were unnecessarily placed on Home Care as a result of erroneous evaluation, students were usually prompt to recognize the fact and to object to the waste of their time. Occasionally a student objected to making home visits because he felt that the patient did not require home care, even though the instructor's evaluation indicated the problem to be suitable. In such instances, as the student's familiarity with the problem increased, he invariably came to recognize the need for home care.

b) The second principle concerning admission was that no patient with an undiagnosed disease would be admitted to Home Care, since it was apparent that diagnosis at home could not possibly be done as effectively as in the hospital. However, if new diagnostic problems arose in a patient who was already on Home Care, diagnostic procedures were frequently carried out at home. The patient was transported to the Out-Patient Department for procedures such as x-ray films. If necessary, the patient was transferred for further diagnostic procedures from the home to the In-Patient Service of The New York Hospital.

c) The final principle governing selection of patients was that the major diagnosis be an organic one to afford the student an opportunity to observe the course of a well defined disease and participate actively in therapy.

Number of patients admitted.—During the 2-year period of study 88 individual patients were admitted to Home Care. In the first year, 1953–54, 26 individuals were admitted; three were admitted twice, and two were admitted 3 times, bringing total admissions for the year to 33. Seventy-one patients, accounting for 81 admissions, were cared for in 1954–55; 63 of the 71 were new patients, eight were carried over from 1953–54. These data are summarized in Table 1.

During 1953–54 the daily census of patients carried on Home Care ranged from five to eleven; the average daily census for the year was seven. During 1954–55, the range was from eleven to 32 per day, and the daily census of patients on Home Care that year averaged sixteen.

Age of patients admitted.—During the first year of the study there were no pediatric admissions to the Home Care Program. Subsequently, the pediatric group of the CC&TP admitted a small number of patients, so that, for the 2-year period, ages

of patients ranged from the first to the ninth decade. The youngest patient was a 27-month-old boy with septic arthritis, and the oldest patient was an 85-year-old former employee of New York Hospital with chronic congestive heart failure due to arteriosclerotic heart disease. Nevertheless, there was a heavy concentration of patients in the older age groups, as Table 2 demonstrates. The median age of Home Care patients was 60 years.

TABLE 1

ADMISSIONS TO THE HOME CARE PROGRAM 1953–1955

Year	New patients admitted	Total admissions
1953–1954	26*	33
1954–1955	62	81
Total, 1953–1955:	88	114

* Of these, ten remained on Home Care into the following year, and one was readmitted, so that a total of 73 patients were on Home Care at some time during 1954–55.

TABLE 2

AGE AND SEX DISTRIBUTION OF PATIENTS ADMITTED TO THE HOME CARE PROGRAM, 1953–1955

Age range	Male	Female	Total
Under 10	6	4	10
10–19	2	1	3
20–29	..	1	1
30–39	..	3	3
40–49	4	3	7
50–59	9	9	18
60–69	13	10	23
70–79	9	9	18
80 or over	2	3	5
Total:	45	43	88

Diagnoses of patients receiving Home Care.—Table 3 shows the primary and secondary diagnoses of all patients cared for in 1953–55. A "primary diagnosis" here refers to the condition that constituted the principal reason for placing the patient on Home Care. In many cases the patients had additional serious conditions, many of which were also treated under the Home Care Program and are therefore included in Table 3. By and

TABLE 3

PRIMARY AND SECONDARY DIAGNOSES OF PATIENTS OF HOME CARE, 1953–1955

Diagnosis	No. patients	
Heart disease:		34
Arteriosclerotic, hypertensive	19	
Rheumatic heart disease	5	
Coronary occlusion	4	
Rheumatic fever	3	
Cor pulmonale	3	
Cancer:		17
Bronchogenic	6	
Colon	3	
Bladder	1	
Breast	1	
Cervix	1	
Liver	1	
Pancreas	1	
Stomach	1	
Testis	1	
Leukemia	1	
Liver:		14
Laennec's cirrhosis	9	
Viral hepatitis	3	
Biliary cirrhosis	1	
Esophageal varices	1	
Neurological:		13
Cerebrovascular accident	6	
Amyotrophic lateral sclerosis	3	
Herpes zoster	2	
Multiple sclerosis	1	
Parkinson syndrome	1	
Vascular:	4	12
Peripheral emboli		
Stasis ulcers	3	
Phlebitis	3	
Arteriosclerosis obliterans	2	
Diabetes mellitus		11
Pulmonary:		
Fibrosis and/or emphysema	6	
Embolism	2	
Abscess	1	
Pleurisy	1	
Pneumonia	1	
Hematological:		6
Allergic purpura	3	
Myeloid metaplasia	2	
Cooley's anemia	1	
Arthritis:		6
Osteoarthritis	3	
Rheumatoid Arthritis	2	
Septic Arthritis	1	
Renal:		5
Glomerulonephritis	3	
Pyelonephritis	2	
Miscellaneous:		14
Post-surgical (7), tuberculosis (2), acromegaly, benign prostatic hypertrophy, cellulitis, G-U tract infection, osteoporosis		

large, the disorders treated corresponded to the diagnoses which one might encounter on the pavilions of The New York Hospital. As in the hospital, the incidence of cardiac and malignant disease was high.

Adequacy of case material for teaching.—The statistics on the number, age, sex, and diagnoses of patients admitted to Home Care over a 2-year period suggest that the Program was able to present a wide and representative variety of case material to students.

Individual students personally cared for only one, or at the most, two Home Care patients along with the patients he saw in the Out-Patient clinics. Not until the second semester of 1954–55 did every one of the students enrolled in the Course in Comprehensive Medicine receive a Home Care patient. This was due to the fact that case finding procedures had previously been unsatisfactory (see Section V). Nevertheless, whether or not students personally had Home Care patients, they were all required to attend weekly conferences where Home Care patients and problems were discussed. Thus, all patients on Home Care during any particular semester served as teaching material for all students.

Types of Problems in Patient Care

The Home Care Program offered opportunities to engage routinely in certain types of care which, although relatively common on in-patient services, are somewhat unusual in conventional out-patient programs. Students obtained valuable experience in continuous care of (*a*) acutely ill and convalescent patients, (*b*) the chronically ill who were too sick to attend clinics, and (*c*) terminal patients. The first category of patients often posed problems in rehabilitation. In the sections that follow, each category of patients is further described, and, in order to illustrate the problems of teaching and care that were involved, representative protocols are presented.

Rehabilitation, acute, and convalescent care.—Table 4 describes all the patients who received rehabilitation, acute, and convalescent care in terms of primary diagnosis, number of days on Home Care, and ultimate disposition. This group numbered 48 and comprised the largest single category of patients to receive Home Care. They provided material for a textbook type of teaching, since each case could be used to demonstrate the development, course, management, and prognosis of a disease. The patients ultimately got well or improved to a point where they could be returned to the Out-Patient Department under student observation, and benefits of care could be measured in terms of the patients' gradual improvement. The primary diagnoses of several of these patients were more correctly classifiable as chronic disease, as for example Laennec's cirrhosis. They were classified in more acute categories, however, if Home Care was given for a temporary relapse or complication of the underlying chronic disease.

The following case illustrates Home Care of a convalescent patient during recovery and rehabilitation after Tuberculous Meningitis.

Case AAL, a 36-year-old Czechoslovakian-born housewife, was transferred to Home Care on October 23, 1953. She had been admitted to The New York Hospital on March 26, 1952, complaining of headaches of 10 days' duration. A diagnosis of tuberculous meningitis was made from examination and culture of the cerebrospinal fluid.

She was treated with Isoniazid, streptomycin, ACTH, and intracranial PPD. Tuberculomas were removed at T9 and L1 by laminectomy.

Admission to Home Care: A New York Hospital social worker visited the patient's home and interviewed the husband who was a highly skilled cabinet maker, impoverished by the expense of his wife's illness. He was devoted to her, intelligent, and eager for her return home. They had a neat 3-room apartment near the hospital. The husband was required to be at work for about 8 hours each day. However, the social worker learned that a cooperative neighbor was willing to look in on the patient from time to time and to answer the doorbell, if it rang. The social worker also arranged with the husband to hire a home attendant. This woman was to be in the apartment for most of the time

that the husband was away, to prepare lunches, do light house-keeping, and work with the patient on rehabilitative exercises.

A medical student reviewed the history and saw the patient daily prior to discharge from the hospital.

The Home Care nursing coordinator conferred with the ward nurses and student in order to evaluate nursing problems and contacted the Visiting Nurse Service in order to apprise them of the problem and determine the extent to which they could participate in the patient's care. Arrangements were made for the Visiting Nurse Service to help plan for needed nursing care and to send a physiotherapist to the patient's home for the purpose of gait training. The patient was then accepted for Home Care.

Course on Home Care: The patient was discharged on bed rest to be allowed up for bathroom, meals for 2 hours daily in a chair, and for 1 hour daily of active and passive exercise and gait training. She was placed on a general diet. Isoniazid, 10 mg/kg daily, was reduced to 5 mg/kg daily on November 10, 1953, plus codeine phosphate, 32 mg., every 4 hours for pain as necessary.

The student visited the patient once weekly, and performed lumbar punctures monthly at home under supervision of his instructor until February, 1954, when LP's were reduced to one every 3 months. Spinal fluid pressure ranged from 62 to 80 mm. and protein between 103 and 66 mg. per cent. There were from 0 to 4 lymphocytes per cu mm. of fluid. The patient was transported by Red Cross station wagon to the clinic every 2 months for a routine chest film, at which times lumbar puncture was done in the clinic. Within a month and a half the patient could walk with a cane, was able to take care of all dressing and toilet needs, and had resumed the role of household cook.

In the course of his weekly visits the student routinely reviewed the medications, physical and neurological findings, and progress in activities of daily living. When it became apparent that the patient was able to increase activities such as climbing stairs, the student and instructor requested the Visiting Nurse to initiate appropriate exercises. The student undertook weekly superficial psychotherapy for both the patient and her husband in order to deal with their anxieties resulting from deafness and invalidism. On April 2, 1954, the patient was started on lip reading exercises to be carried out weekly at the hospital. She was then transferred to the Out-Patient Department where the student continued to follow her.

TABLE 4

REHABILITATION, ACUTE AND CONVALESCENT CARE DIAGNOSES, AND TOTAL TIME OF HOME CARE

July 1, 1953–June 30, 1955

Patient	Age	Primary diagnosis	Days on Home Care
MG	65	Cerebrovascular accident	286
ATr	57	Coronary occlusion	272
MO	75	Osteoarthritis	246
ADu	75	Dislocated hip	164
AAl	37	Tuberculous meningitis	162
SO	56	Cerebral embolus	152
MMz	69	Rheumatic heart disease	138
NP	61	Laennec's cirrhosis	130
BG	74	Rheumatoid arthritis	127
MR	80	Pneumonia	127
IL	38	Rheumatic heart disease	124
BS	40	Biliary cirrhosis	116
WL	56	Angina pectoris	108
EMa	4	Acute lupus erythematosus	96
VS	78	Diabetic amputation	94
WT	48	Henoch Schonlein purpura	88
LLa	65	Lung abscess	87
JT	80	Angina pectoris	83
ARe	79	Thrombophlebitis	81
EC	45	Laennec's cirrhosis	73
OT	52	Multiple arterial thrombosis	67
CD	39	Acute rheumatic fever	65
MKu	53	Diabetic amputation	61
EBa	70	Arteriosclerotic heart disease	57
TL	21	Multiple sclerosis	56
ED	66	Laennec's cirrhosis	46
SC	5	Cooley's anemia and serum hepatitis	43
VM	2	Pyogenic arthritis	39
ARi	5	Injectious hepatitis	37
JM	10	Acute glomerulonephritis	35
JO	58	Laennec's cirrhosis	35
ARo	8	Acute glomerulonephritis	32
JHt	74	Coronary occlusion	30
JA	60	Coronary occlusion	25
JP	5	Infectious hepatitis	25
ADr	60	Coronary occlusion	23
WC	76	Pulmonary emphysema	22
JHm	78	Coronary occlusion	21
MMr	69	Angina pectoris	18
KF	42	Rheumatic heart disease	17
LMr	7	Glomerulonephritis	13
ABe	61	Pulmonary emphysema	11
ATh	7	Cellulitis, knee	11
CP	5	Pyelonephritis	10
DB	10	Pyelonephritis	9
LLo	63	Acute pleuritis	6
KK	3	Acute rheumatic fever	4
MKr	68	Herpes zoster	3
48 patients		Total patient days	3575
		Average days per patient	74.4

This case illustrates a problem in rehabilitation of a convalescent patient suffering from deafness and spastic paraplegia after recovery from tuberculous meningitis. The medical student had an opportunity to assume responsibility for a patient whose course reflected the evolution of therapy for tuberculosis in the past few years. He was able to follow the patient in the hospital, through Home Care, and finally into the OPD. During this time he learned evaluation of activities of daily living and its meaning to a patient in her own home environment. He became familiar with the resources available in the community, including Visiting Nurse, and housekeeping services, and learned to utilize them for his patient. Finally, he had an unusual opportunity to develop clinical judgment and experience by following a patient under treatment for tuberculous meningitis, and to acquire knowledge of this condition as he never could from reading a textbook alone, from seeing such a patient for a few weeks as a clinical clerk on the ward, or from the brief encounter provided by a standard out-patient department teaching program.

A total of sixteen patients were placed on schedules or rehabilitation while on Home Care.

Chronic care.—Twenty-one patients received care at home for chronic illness during the 2-year period of this report (Table 5). Most of them presented problems of chronic cardiac, pulmonary, or hepatic failure. Two cases of amyotrophic lateral sclerosis provided a constant challenge to the ingenuity of the staff and students. No patient with chronic illness was maintained at home if he appeared to be deteriorating despite optimal home therapy. It was noteworthy that an occasional chronically ill patient who could not be managed successfully at home would do well on Home Care after a period of rehospitalization.

TABLE 5

CHRONIC CARE, LIST OF PATIENTS TREATED
1953–1955

Patient	Age	Primary diagnosis	Disposition	Days on H.C.
RK	79	Osteoarthritis	Continued H. C.	672
JHe	85	Coronary artery disease	Continued H. C.	451
EMe	57	Rheumatic heart disease	Died in hospital	388
PB	51	Cor pulmonale	Died in hospital	261
MC	54	Amyotrophic lateral sclerosis	Continued H.C.	254
LO	66	Pulmonary fibrosis	Continued H. C.	223
MD	68	Coronary artery disease, acromegaly	Referred to chronic hospital	214
EK	66	Laennec's cirrhosis	Chronic hospital	196
RD	52	Coronary artery disease	Hospitalized	191
LP	75	Cerebral thrombosis	Continued H. C.	187
PC	63	Varicose veins	Continued H. C.	177
JK	82	Pulmonary fibrosis	Continued H. C.	176
MP	75	Cerebral thrombosis	Continued H. C.	155
WM	57	Bronchogenic carcinoma	Continued H. C.	149
JVl	62	Coronary artery disease	Continued H. C.	140
AW	63	Osteoporosis	Continued H. C.	107
DJ	50	Rheumatic heart disease	Continued H. C.	104
TF	57	Amyotrophic lateral sclerosis	Continued H. C.	92
OE	42	Laennec's cirrhosis	Left city	82
LR	67	Pulmonary fibrosis	Continued H. C.	56
DC	67	Laennec's cirrhosis	Chronic hospital	23
21 patients			Total patient days (1953–55):	4298
			Average days per patient:	420.7

The following case exemplifies an experience in the home care of a chronically ill patient.

P. B., a 51-year-old taxicab driver, suffered from chronic bronchitis, bronchiectasis, pul-

monary fibrosis, and bullous emphysema. He was dyspneic on mild effort, such as walking across the room. The first effort at home care was terminated after 22 days by acute pulmonary failure associated with a mild respiratory infection. He improved considerably after 48 days of hospitalization, and was again eager to return to his home for further supervision by the Home Care group. As soon as he returned home, however, his condition deteriorated rapidly, and after 18 days of home care he was transferred to a hospital for chronic care, since it was now felt that the patient could not be maintained at home. However, 75 days later he was discharged from the chronic care hospital improved. Prepared by previous failures the home care physicians started to treat the patient more aggressively with oxygen by mask, nebulized Vaponephrine, and Alevaire, Diamox, and respiratory function exercises. Postural drainage was not possible because of orthopnea. Mr. B. was carefully instructed not to strap the mask to his face nor to inhale the oxygen too long to prevent hypercapani, and CO_2 narcosis. Antibiotics were used prophylactically several days each week. The patient remained at home in a fairly satisfactory state for 189 days when a 14-day hospitalization was again necessitated by a respiratory infection. After another month at home, he again deteriorated, and was admitted to the hospital where he remained very dyspneic at rest. He was found dead in bed on the third day of hospitalization.

This case illustrates how a chronically ill patient could be maintained satisfactorily at home for about half the time that his chronic illness incapacitated him. The particular value of home care in teaching chronic care is also exemplified by this case. The first two attempts were unsuccessful, and each ended, after a short time, in re-admission to the hospital. The student learned during the third admission to home care that a vigorous program of intermittent oxygen, nebulizers, and antibiotics could enable the patient to spend over half a year in his own home before his demise. This case, and others like it, provided demonstrations for a number of fruitful conferences and discussions. Students had an opportunity to observe first-hand the inevitable limitations of medical treatment in problems of this sort and to develop a philosophy of caring for chronically ill patients. In the opinion of their instructors, they learned to be realistic in their goals and to maintain a steady, optimistic effort to diminish the limitations and misery imposed upon the patient and his family by chronic disease.

M. C. represents an example of a patient who received chronic care at home for amyotrophic lateral sclerosis for 9 months until she sustained an injury which led to her death. She was a 58-year-old housewife, transferred to Home Care from the Neurological pavilion of The New York Hospital on December 7, 1953. Two and one-half years previously she noted loss of voice and difficulty with articulation. She gradually developed paralysis of her tongue and weakness of the neck muscles, twitching of her abdomen, face, arms, and legs, and was unable to swallow solids. She often choked on liquids, and drooled a great deal. Vital capacity was 900 cc. Carbon dioxide combining power was 31 meq/liter, indicating mild hypercapnia.

During her hospitalization a tracheotomy was done, and tube feeding was started. She was referred to Social Service for discharge to an institution for chronic care, but insisted on returning to her own home. Thus referral was made to Home Care. A social worker visited the home and found it adequate. Arrangements were made for the unemployed husband or daughter to be in constant attendance. A home care student examined the patient on the pavilion and followed her for several days, becoming familiar with the management of the tracheostomy and tube-feeding procedure which the patient was taught to do herself. Her husband was taught how to prepare the tube-feeding formula.

Course on Home Care: A suction machine was loaned by Home Care. The Visiting Nurse Service was requested to aid in the supervision of self-intubation for tube feedings, suctioning, cleaning of the tracheotomy tube, the husband's preparation of the tube feedings, and general health measures.

The patient was given syrup of Gantrisin, ½ gm., 3 times daily in her tube feedings and recorded rectal temperatures twice daily. The student and senior physician made a visit on the day after transfer to Home Care. On the following day the patient complained of abdominal

pain, and was visited by the student who made a diagnosis of excessive gas and anxiety, with which his instructor concurred. Mrs. C. was reassured and seen twice the following day for further support. On the fourth day at home the student changed the tracheotomy tube without difficulty, but on the eleventh day overgrowth of granulation tissue prevented the introduction of a fresh tube. The patient was immediately transported to the hospital where an otolaryngologist trimmed the granulations and reinserted the new tube. Subsequently the tube was changed without difficulty, although the gradual narrowing of the stoma necessitated a second revision on March 31, 1954.

In March, 1954, she began to be nauseated by the smell of her tube feeding and developed vomiting and diarrhea which made management at home difficult. She agreed to go to an institution for chronic care. Six days later the husband notified the Home Care Service that she had insisted on returning home as soon as her enteritis subsided. The patient was seen by the student and instructor who agreed to readmit her to Home Care. Her tube feeding was revised with the aid of The New York Hospital Nutritionist, and this corrected its tendency to nauseate the patient.

In April, 1954, she felt well enough to do light house cleaning, including window washing. Her only complaints were those of mild constipation and pain in the tip of the spine due to an incipient bed sore. And this time a new student physician was assigned to the case. He reviewed the record carefully, made a home visit with the previous student physician, and arranged a program for care of the bed sore with the Home Care Nursing staff to be carried out by the Visiting Nurse. The patient was transported via ambulance to the New York Hospital on July 29, 1954, for presentation by the student at Medical Grand Rounds. A chest film was obtained while she was at the hospital and found to be normal.

At the end of August, 1954, the patient's husband complained that the strain of caring for his wife was too much for him. Thus when the patient fell and struck her head he sent her to a city hospital for chronic care. She did well for a day after a laceration was sutured but had a coughing spell which was treated by insertion of an oxygen catheter into the tracheal tube. The patient rapidly became comatose and died the following day.

This case illustrates an experience in chronic care of a patient suffering from far advanced amyotrophic lateral sclerosis. The two students successively assigned to care for this woman at home became familiar with the course of the disease and acquired techniques for dealing with medical problems of such a patient. They learned what the Visiting Nurse Service could contribute to the care and education of patient and family and acquired experience in utilizing facilities for care at a city hospital as well as their own hospital when home management became impractical. The case repeatedly presented problems which required skill, ingenuity, insight, sensitivity and grasp of the interplay of personality, family, and community in medical care. Ultimately, the students learned to set limited but positive goals in the treatment of such a patient, and learned the potential catastrophic effect of oxygen therapy in a patient with respiratory insufficiency.

R. K., a 78-year-old German widower and former longshoreman, was admittted to the Home Care program because of chronic bilateral venous insufficiency with ulcers of the right ankle and foot of approximately 30 years' duration, severe coxae malum senilis which prevented him from climbing one flight of stars to leave his apartment, and arteriosclerotic heart disease.

The patient was admitted to The New York Hospital in February, 1953, for a skin graft, but this was decided against because of the chronic history, limitation of movement of the legs, and precarious cardiac status. He was treated in the surgical clinic with Unna boots. He was seen in Medical Clinic because of exertional and paroxysmal nocturnal dyspnea as well as orthopnea and was found to have auricular fibrillation which was treated with digitoxin and low salt diet. Digitoxin was stopped in June, 1953. At this time the patient's admission to Home Care was advised, because his inability to leave his apartment prevented adequate medical supervision of his cardiac status and leg ulcers. Social Service evaluation revealed that the patient lived alone in a second-story 3-room apartment which he kept very neat and clean. He spoke only German. His shopping was done by his superintendent, and he had many

German-speaking friends who visited him during the day. The social worker felt that there was adequate community support for Home Care of the patient despite his lack of family and inability to comprehend English.

The patient was started on a regimen of Phisohex soaks, elevation, Bacitracin paste dressings, and Ace bandages. Mineral oil swabs were used to cleanse the wounds. There was little change in the ulcers. Subsequently a surgical consultant visited the home with the student, and hyaluronidase ointment was started without benefit. The Visiting Nurse visited from 2 to 6 times weekly depending on the regimen outlined by the student and his instructors.

In November, 1953, the Visiting Nurse reported that the patient was dyspneic, tachypneic, and complained of pressure behind the sternum. A portable EKG taken by the student and instructor revealed no change from previous records. The patient was redigitalized by the student under the instructor's supervision, when it was decided that the symptoms were due to heart failure.

In October, 1953, a course of plasminogen ointment was tried experimentally under the supervision of the surgical consultant without benefit.

In November the digitoxin dose was increased because of a recurrence of congestive heart failure with good response. In December the attending physician then consulting with the Home Care Group recommended a course of Priscoline and mercurial diuretics which were ineffective, and in February, 1954, hyaluronidase ointment was tried unsuccessfully. In October, 1954, an ingrown toenail was removed by the student under the instructor's supervision. On January 18, 1955, the patient was brought to the clinic by the student for physical examination, blood count, urinalysis, chest film, and electrocardiogram.

In February leg ulcer dressings were attempted with streptokinase-streptodonase ointment without effect. Later an attempt with 2 per cent salicylic acid ointment failed, and the original regimen was resumed.

This 78-year-old former longshoreman was admitted to the Home Care Program because of chronic stasis ulcer of the right ankle and foot, arteriosclerotic heart disease, and severe bilateral osteoarthritis of the hips which prevented him from climbing one flight of stairs of his apartment. Although neither condition alone would have warranted Home Care, the hip condition virtually imprisoned him in his own apartment, necessitating medical supervision of his leg ulcers and treatment of heart disease at home. If adequate Home Care had not been available this patient would have required chronic institutional care. He died in 1958 after receiving Home Care for almost 5 years, and ten successive medical students had an opportunity to pit their ingenuity and therapeutic acumen against his resistant chronic ulcers. They learned how extremely refractory stasis ulcers may be, and became familiar with a large variety of regimens in attempting to effect a cure. They learned the need to accept compromises in their therapeutic objectives in such situations. The patient was a grateful, friendly individual who related well to each of the students. He won the sympathy and respect of all, and provided a good subject with whom the junior physicians could establish an excellent physician-patient relationship, despite the language barrier.

From the standpoint of content of medical problems the case was not especially stimulating. The patient's static course ultimately required visits only every 2 weeks, but it nevertheless provided clear-cut problems in the management of three diseases: chronic congestive heart failure, arthritis, and stasis ulcers. Probably the outstanding lesson which the patient provided was that a well-organized plan for care at home utilizing the Visiting Nurse, friends, neighbors, and the patient's own motivation could keep an otherwise helpless and chronically ill patient out of an institution for chronic care. None of the students ever questioned the importance of his role in the patient's care.

Terminal care may be defined as the attention given to a patient in the final stage of inevitably fatal illness in which there is no hope of arresting the course of the disease. The Home Care staff at The New York Hospital and Cornell University Medical College developed special interest in this problem when it became apparent that

about 25 per cent of all patients admitted to Home Care were suffering from such illness (24). This experience was not unique, since the Home Care group of the Montefiore Hospital in Pittsburgh (3) reported that a similar percentage of their patients required terminal care. The extent of the problem in Chicago was clearly outlined in a study by Nicholson (13) indicating a total of 1770 cancer deaths in that city during the year of study. One-fourth of this number seemed to require terminal care at any given time. Obviously a problem of such magnitude deserves attention in the training of physicians, and the Home Care Program seemed ideal for such instruction. Nineteen terminal care patients were treated during the 2-year period of study and are listed in Table 6.

TABLE 6

TERMINAL CARE, LIST OF PATIENTS TREATED
1953–1955

Patient	Age	Primary diagnosis	Result	Post Mortem	Days on H. C.
RV	62	Bronchogenic carcinoma	Alive		171
AAs	59	Bronchogenic carcinoma	Died home	Yes	161
AV	73	Carcinoma of bladder	Died home	No	113
LV	46	Renal insufficiency, diabetes	Died hosp.	Yes	102
JC	78	Bronchogenic carcinoma	Died home	No	81
EBe	57	Carcinoma of colon	Alive		57
FM	17	Carcinoma of testis	Died home	Yes	41
MS	52	Carcinoma of kidney	Died home	No	45
MJ	72	Carcinoma of pancreas	Died home	Yes	36
LZ	82	Myeloid metaplasia	Died hosp.	Yes	32
KL	41	Carcinoma of colon	Died home	Yes	30
KB	70	Carcinoma of cervix	Alive		30
AM	61	Carcinoma of breast	Referred		29
ABo	76	Bronchogenic carcinoma	Died home	No	24
HH	62	Myeloid metaplasia	Died hosp.	No	22
IMe	70	Carcinoma of stomach	Died home	No	15
JVi	62	Bronchogenic carcinoma	Died home	Yes	5
FS	54	Carcinoma of liver	Alive		4
FC	57	Leukemia	Died home	Yes	3
19 patients			Total patient days (1953–55):		1001
			Average days per patient:		52.7

The following case reports illustrate the particular value of home terminal care in the education of senior medical students.

A.B. was a 74-year-old machinist transferred from the Out-Patient Department to Home Care on August 5, 1953. The patient had been discharged from The New York Hospital with a diagnosis of inoperable bronchogenic carcinoma on July 21, 1953. A course of x-ray therapy started in the hospital was continued in the Out-Patient Department, where he was followed by a fourth-year medical student and a member of the staff of the Home Care Program, who anticipated continuing his supervision when he became too ill for clinic visits. A social worker visited the home and found that the patient lived in a 3-room apartment with his wife who had a mild residual hemiparesis from a stroke, and a 30-year-old unmarried son. In her opinion both were able and willing to care for the patient at home.

The patient weakened rapidly and on August 5, 1953, he developed acute congestive heart failure. He was seen in the Emergency Room where he was digitalized with ouabain and digitoxin and transferred to Home Care.

Course on Home Care: The student physician visited the home the following day with an instructor. At this time sputum cultures for tuberculosis obtained when the patient was in the hospital were reported as positive, and the patient was started on isonicotinic acid hydrazide. The student explained to the patient, his wife and son, the potential risks of infection by pulmonary tuberculosis and made arrangements for the patient to sleep on a day-bed in the living room. A Visiting Nurse referral was written by the student and countersigned by

the senior physician requesting VNS to undertake health supervision of the family. The student after preliminary conference with the senior physician explained the terminal status of the patient to the family, and encouraged them to express any problems, doubts, and anxiety about care at home. Doubt was expressed that they would be able to deal with the terminal episode when it came. The student reassured them that if at any time the situation became too difficult to manage, hospitalization would be arranged at his discretion or at the family's request. The patient became progressively weaker over a period of 2 weeks. The student visited him approximately every other day. After 2 weeks at home Mr. B. developed severe diarrhea necessitating additional assistance from the patient's daughter who moved into the apartment. After 2 days of diarrhea which was not controlled by paregoric the patient appeared moribund. He was disoriented and euphoric. The family had become alarmed and exhausted. The student and senior physician again discussed hospitalization with the family who indicated their main source of concern to be that they would be unable to maintain the effort required by the patient for several weeks more. When they were told that this man, who was *in extremis*, would probably not survive for a week they appeared relieved and preferred to continue care at home. The student decided against attempting to adjust fluid and electrolytic balance, since the patient appeared comfortable, and he was upheld in this decision by the instructor. On the following morning the patient was found dead in bed. The Home Care Service was notified, and the student with the senior physician went immediately to the home, filled out a death certificate, and obtained permission for autopsy. Unfortunately the undertaker discouraged the family from allowing the autopsy, and the permission was withdrawn.

This patient with carcinoma of the lung and pulmonary tuberculosis gave the student an opportunity to become familiar with the current treatment of pulmonary tuberculosis as well as with health measures required to protect other members of the family. The student acquired experience in techniques for maintaining the comfort of a dying patient and learned how he could support a distraught and apprehensive family. He also became acquainted with the values of the Visiting Nurse Service, and learned how to prepare a death certificate.

F. M., a 17-year-old boy, was discharged to the Home Care Program on December 17, 1954, with a diagnosis of carcinoma of the left testis with widespread metastases in the liver, pelvis, spine, lungs, pleural spaces, and systemic lymph nodes. He had bilateral pleural effusion.

Treatment in the hospital included x-ray therapy, nitrogen mustards, cortisone, Diamox, mercurials, and repeated bilateral thoracentesis.

Referral to Home Care: When it became obvious to members of the House Staff that the patient could not survive, plans were made for terminal care in the hospital. The patient, however, was reluctant to remain hospitalized over Christmas and became so insistent that referral to Home Care was made. A Home Care instructor and student reviewed the hospital record and examined the patient. They became convinced that the patient despite his discomfort would be much happier at home during the Christmas holiday. A social worker visited the home and interviewed the family, which consisted of the mother who was a housewife and apparently the dominating member of the family, the father who was a bartender at a local restaurant, an older brother aged nineteen, a younger sister aged fifteen, and the mother's sister who was a deaf-mute. All seemed intelligent and cooperative and desired the patient's return home. The Home Care nursing staff reviewed the patient's nursing problems with the floor nursing staff and arranged to lend a hospital bed to the family. It was determined that the patient required two or more thoracenteses each week, and the nursing staff of the CC&TP made arrangement to provide necessary equipment to carry this procedure out at home. The members of the Home Care team then discussed the case and agreed to accept the patient.

Course on Home Care: The patient was discharged at the time that the students were beginning the Christmas vacation. Thus the initial care was rendered by an instructor who visited the home on the day after the patient's discharge. He found the family in a state of agitation attempting to maintain the therapeutic regimen which the hospital intern had ordered at the time of discharge. This included phenobarbital, 32 mg. orally 4 times daily; Terramycin, 250 mg. 4 times daily; elixir terpin hydrate, 4 cc. every 4 hours as necessary;

cortisone, 25 mg., 3 times daily; Diamox, 250 mg. 3 times daily for the first 3 days of each week; and ammonium chloride, 0.5 gm., 3 tablets 4 times a day for the first 4 days of each week followed by Thiomerin, 2 cc. intramuscularly, on the 6th and 7th day each week; Thorazine, 25 mg. 4 times daily; and morphine sulfate, 8 mg. subcutaneously whenever necessary for pain. The Home Care physician cancelled everything but morphine and thorazine. The patient was reluctant to take even these medications and insisted that only his older brother be permitted to give the injections. He required two thoracenteses during the first week at home, and each time insisted on the presence of his older brother for support and comfort. It was decided to start him on a course of triethylenemelamine because of an equivocal response which he displayed to nitrogen mustards while in the hospital. He was given an initial dose of 5 mg. by mouth but became very nauseated and was reluctant to take additional doses. His white blood count was followed daily after the dose and did not change significantly.

On Christmas day the patient was dressed and left his bed to sit in the living room with his family. His mother informed the physician that she never recalled the family's having a happier holiday. On the third of January the student returned from vacation and made his first home visit with the senior physician. The members of the family had previously been informed that another physician (the student) was to assume the major responsibility for the patient but that the senior Physician would maintain close interest.

The patient was apprehensive about the change. Several days after the introductory visit the student made a visit alone and spent about 1 hour with the patient in order to perform a complete physical examination and become acquainted with members of the family. After this visit he appeared to have been accepted as physician.

In the following 3 days increasing shortness of breath necessitated two thoracenteses for the patient's relief. These were carried out by the junior physician with the instructor and older brother present. The patient steadily deteriorated and died on February 5, 1955. The student and instructor went to the home as soon as the family called, signed a death certificate, and obtained permission for autopsy. The patient's remains were transported to The New York Hospital where post-mortem examination revealed carcinoma of the testis with widespread metastases.

The patient was on Home Care for a total of 50 days, during which time 23 visits were made; four by the student alone, eight with his instructor, and eleven by a member of the Home Care teaching staff alone. The average time spent by the student on each of his visits was 1 hour and 40 minutes, or a total of 20 hours. During this time he was able to observe the down-hill course of a patient with terminal carcinoma and the reactions of a family to the illness. He became the key physician in a team which was able to satisfy the patient's desire to remain at home in a reasonable degree of comfort. The student became adept at carrying out thoracentesis, learned to instruct the family to give morphine injections at home. He learned of the importance of physical diagnosis as a major tool in determining the progress of the patient's pleural effusion, since no x-ray equipment was available in the home, and he could observe the progress of lymphadenopathy and obstructive manifestations in the extremities. Early in his medical career he realized that physical diagnosis was more than an academic exercise to be confirmed by the diagnostic equipment available in a teaching hospital. Ultimately he was able to check his findings and impressions at post-mortem examination ordinarily available only to physicians whose patients die in the hospital. In the instructor's opinion, the student acquired a rich experience in physician-patient relationship by successfully assuming the role of physician for an apprehensive, uncomfortable, and anguished family. He developed a heartening self-confidence and maturity which had been notably absent when he had become the home physician a month before the patient's death. Home Care afforded one further lesson for the house officer as well as the home care physicians. During hospitalization, the patient was placed on a therapeutic regimen which became prohibitively complicated as frantic attempts were made to prevent his inevitable death. In retro-

spect it seems likely that the discomfort of frequent oral and parenteral medications contributed to the patient's desire to leave the hospital. It was obvious after the patient was discharged that he was on a regimen virtually impossible to follow. The Home Care physician's observations revealed a therapeutic error of which the house officers would not have become aware if the patient had not been discharged to the hospital Home Care Program. The student learned to think of the practicality of therapeutic regimens he would prescribe in future years of practice.

The following case is presented as an example of how terminal care at home might have been preferable to that in the hospital.

H. H. was admitted to Home Care on November 11, 1952, for agnogenic myeloid metaplasia and chronic congestive heart failure due to arteriosclerotic heart disease, when weakness prevented him from keeping his first clinic appointment after discharge from The New York Hospital. He had been admitted to the hospital 4 times for the above diagnosis since December, 1948. Members of the hospital staff felt that nothing could be accomplished by further hospitalization.

Course on First Home Care Admission: A Visiting Nurse referral was written by the student and senior physician. The patient was permitted up for bathroom privileges, and given digitoxin, 0.2 mg. daily, vitamin supplements, Protinal feeding supplements, and Thiomerin (2 cc., every 4 to 7 days). Early in January the patient's strength had improved so that he was able to walk slowly up and down four flights of stairs. However, his hemoglobin had fallen to 5 gm/100 cc, and he was brought to the clinic by ambulance on January 17; 1,000 cc. whole blood were given slowly, after which he was returned to his home. He had a temporary improvement in strength but began to develop nose bleeds and became progressively weaker. Hemoglobin on January 28 was 5.5 gm., epistaxis was controlled by packs, and neosynephrine administered by the student under supervision. The patient remained the same until February 27, 1953, when he hemorrhaged from the nose for 10 hours. A hemoglobin was found to be 4.0 gm., and he was transferred to the hospital on February 28, 1953, in an apparently terminal state.

Interim Hospital Course: He remained in the hospital for 6 months during which time he was treated with transfusions of blood, packed red cells, digitalis, mercuhydrin, low salt diet, penicillin, streptomycin, and vitamin K. In March he developed ascites and pretibial edema, at which time ammonium chloride was added to his regimen. His serum albumin was at a low level of 1.8–2.2 gm. per cent. On April 2, he developed left chest pain and coughed up blood. He was thought to have a pulmonary infarction. A steady fall in the hematocrit necessitated repeated blood transfusions. On July 23, paracentesis was performed to remove ascitic fluid. He developed a cellulitis of the chest wall which was treated with terramycin after cultures revealed a terramycin-sensitive hemolytic staphylococcus aureus infection. The patient's course appeared to be fairly stable in August, and he was again discharged to Home Care on August 30, 1953, by ambulance for terminal care.

Second Home Care Admission: When readmitted to Home Care, positive physical findings were: BP 95/40. There were vascular spiders over both cheeks and purpura over the left forearm. Tongue was red and smooth. There was generalized intercostal retraction on inspiration and rhonchi throughout both lungs. The liver was hard, nodular, four fingers-breadth below the right costal margin, and fluid wave and shifting dullness was present. There was a decubitus ulcer at the base of the spine. Oral Demerol was ineffective for pain. Thus, the student instructed the wife on administration of intramuscular Demerol. Both the patient and his wife appeared happy that he was at home. He requested less narcotics than he did in the hospital, and the Visiting Nurse noted in her report that the patient was enjoying his favorite German dishes which the student physician decided to allow in place of a low salt diet. The Visiting Nurse also wrote "his obvious happiness at being home makes his care there worthwhile, Mrs. H. is happy and cheerful and seems well able to give him good nursing care."

On September 16, 1953, the hematocrit was 18 per cent. Two days later a paracentesis was performed by the student to relieve discomfort from ascites, after initial catheterization of the bladder. On September 21 the patient had a spontaneous nose bleed which lasted half an hour. He vomited once during the day and that night he became comatose, responding only to painful stimuli. It was felt, therefore, that he

should no longer be treated at home. The student's note stated ". . . against the wife's better judgment, the patient will be admitted to The New York Hospital."

In the hospital, the patient was transfused and regained consciousness. He refused to permit any further procedures to be carried out on him. His wife now refused to take him back home, her serenity and adjustment to Home Care shaken by the upset of having the patient returned to the hospital. The patient's sensorium fluctuated. He became comatose 3 times and in each instance returned to consciousness after inhaling a mixture of oxygen and carbon dioxide. On November 10, a new house staff came on service and again transfused the patient, contrary to his and his wife's wishes. On November 13, the patient returned to consciousness following an infusion of 5 per cent dextrose and water. The record noted on November 14 "the patient flatly refuses paracentesis." On the following day a paracentesis was done. The patient again became comatose and expired on November 25. His wife refused permission for autopsy and threatened to sue the hospital and staff for unnecessarily meddling with the patient.

Development of realistic attitudes in patient care was striking in several of the students confronted with the responsibility for managing fatal illnesses, as reflected by the following case.

M. S., a 52-year-old man, was transferred from the Urology service of The New York Hospital to the Home Care Program after an exploratory laparotomy revealed disseminated inoperable carcinoma of the kidney. The patient was severely anemic and debilitated. The student felt that the anemia should be treated with blood transfusions as frequently as necessary in order to maintain the patient's hemoglobin at a good level. The instructor pointed out that the patient had been receiving about three units of blood a week in the hospital without any improvement in the anemia, and that frequent transfusion would probably continue to be ineffective and place the family under a great burden to pay for or replace the blood. The student insisted that he should not be expected to care for such a patient at home unless all the blood which he believed necessary could be provided. The instructor agreed to permit the student to manage the problem as he wished. The student ordered three transfusions for the patient during the first week on Home Care only to find the hemoglobin slightly lower than before. At this point the student was asked to present his case at a weekly Comprehensive Care Conference attended by all the students, teachers, nurses, and social workers participating in the program. After presenting the case the student entered into a detailed, perceptive, and well thought out analysis of the problem in which he pointed out the utter futility of his early stand regarding the patient's management. He outlined a program for management which would discontinue all further transfusions, and be directed toward maintaining the patient and family in as comfortable a state as possible. The major therapeutic agent which he proposed to employ was chlorpromazine.

Under the new regimen the family's apprehension was greatly alleviated and the patient became considerably more comfortable, expiring a short time later.

This case illustrates the difficulty of decisions which must be made regarding terminal management, and that students may benefit from participation in such decisions. Such participation in terminal care situations seemed to have particular value in helping students develop professional attitudes. The trainee usually found himself plunged suddenly into a situation which required him to deal with a severely ill and often uncomfortable patient whose only outlook was death, an apprehensive family who constantly required vigorous support and reassurance, and occasionally with an uneasy nurse who was not altogether sure that it was wise to keep a dying patient at home, and who occasionally needed as much reassurance as did the family. When faced with this situation the instructor offered as much support as seemed necessary to tide the student over his initial anxiety. He would accompany the student on most or all of the early visits and when necessary would assume the position of family physician under the student's observation in order to demonstrate how effective the physician could be in transforming a potentially harrowing experience into one that was tranquil and supportive. The swift transmutation

which occurred in many students subjected to this experience was one of the most gratifying observations of the program. In a brief time many students acquired insights and skills which enabled them to understand all aspects of a complicated medical situation; diagnostic, therapeutic, emotional, familial, communal, or, in short, to learn comprehensive patient care.

Opportunities to Employ Modern Methods of Diagnosis and Therapy

Without ready access to the many diagnostic and therapeutic facilities available in hospitals, Home Care can easily become synonymous with makeshift care. This would, of course, be undesirable in any case but it would be particularly objectionable in a teaching program. Accordingly, the complete laboratory facilities of The New York Hospital were made continuously available to the Home Care Program. Special studies which would be impossible at home, particularly radiography, were accomplished by transporting the patient to the Hospital. Specimens for blood tests were obtained in the home. A portable electrocardiograph was carried into the home when necessary.

Within a reasonably short period before admission to Home Care, all patients had a complete blood count, urinalysis, Mazzini, and chest film. If these tests had not been done recently, they were completed at the time the patient was evaluated at the Hospital prior to admission. Table 7 lists all of the laboratory tests which were done on Home Care patients during the one-year period 1954–55.

A tabulation of drugs used and therapeutic procedures carried out on Home Care during 1954–55 is presented in Table 8.

It is apparent that students had an opportunity to familiarize themselves with a wide variety of therapeutic agents currently used. Most of these agents were employed for several patients, so that it was frequently possible for the students at their weekly conferences to compare the results of similar regimens on different patients and to weigh the variety of factors which contributed to success or failure of treatment. The student was always accompanied by his instructor whenever performing a procedure such as paracentesis, thoracentesis, or change of

TABLE 7

LABORATORY TESTS* ON HOME CARE PATIENTS
1954–1955

Tests	No. performed	No. patients tested
I. Clinical:		
Urinalysis	42	22
White blood count	23	12
Complete blood count	21	13
Hemoglobin	21	9
Hematocrit	16	6
Sedimentation rate	3	1
Bone marrow	1	1
II. Chemical:		
Prothrombin time	96	10
Serum bicarbonate	13	9
Blood urea nitrogen	9	3
Plasma protein	9	6
Serum bilirubin	7	7
Serum thymol turbidity	7	5
Serum cephalin flocculation	7	6
Serum chloride	7	6
Fasting blood sugar	6	3
Serum sodium	6	4
Serum calcium	6	4
Serum alkaline phosphatase	6	5
Serum potassium	5	4
Serum phosphorous	4	4
Serum amylase	1	1
III. Cultures	11	9
IV. Electrocardiogram	7	5
V. X-Ray films:		
Chest	3	3
Intravenous pyelogram	2	2
Hip	2	2
Ribs	1	1
Gastrointestinal series	1	1
VI. Function tests:		
Bromsulfalein retention	7	4
Urea clearance	4	3
Addis count	3	3
Venous pressure, circ. time	2	2
VII. Vaginal smear	1	1
VIII. Heterophile agglutination	1	1

* Every patient admitted to Home Care was required to have a complete blood count, urinalysis, stool for blood, and chest film, within a reasonably short period before admission. The tabulated procedures were done in addition to the routine admission laboratory tests.

catheter. An instructor was also present whenever an injection of any sort was given by a junior physician. No supervision was required when blood specimens were drawn. There was a striking absence of complications from the various procedures carried out. The pleural or peritoneal cavity was drained 17 times at home without any untoward effects. Five persons were maintained on anticoagulant therapy with prothrombin determination at least once weekly, for a total of 453 patient-days of Home Care, with no untoward effects.

Tables 7 and 8 show that a variety of up-to-date therapeutic and diagnostic techniques could be made available to students for management of their patients at home. However, a much more basic principle per-

TABLE 8

DRUGS AND THERAPEUTIC PROCEDURES EMPLOYED FOR HOME CARE PATIENTS IN 1954–1955

Drug	No. patients receiving
Cardiac:	
Digitoxin	12
Oxygen	4
Digitalis	3
Nitroglycerine	2
Pronestyl	1
Erythryltetranitrate	1
Diuretics:	
Mercuhydrin	13
Diamox	5
Thiomerin	3
Ammonium chloride	1
Pulmonary:	
Alevaire	5
Vaponephrine	4
Tedral	1
Ephedrine	1
Potassium iodide	1
Terpin Hydrate	1
Sedatives:	
Thorazine	8
Sodium pentobarbital	6
Phenobarbital	5
Chloral hydrate	2
Barbital	1
Narcotics:	
Codeine	9
Morphine	5
Demerol	3
Pantopon	1
Aspirin	5
Antibiotics:	
Tetracyclines	11
Penicillin	7
Gantrisin	4
Sulfadiazine	2
Combiotic	2
Steroids:	
Cortisone	3
Testosterone	2
Estrogen	1
Gastrointestinal:	
Milk of Magnesia	4
Amphogel	2
Mineral oil	2
Cascara	1
Paregoric	1
Insulin	5
Hematologic:	
Dicumarol	5
Feosol	1
Triethylene melamine	1
Vitamins:	
Multiple	7
K	3
Pyribenzamine	1
Gamma globulin	1
Pilocarpine	1
Potassium chloride	1
Ointments:	
Ammoniated mercury	1
Silver nitrate	1
Furacin	1
Procedure:	
Catheterization	4
Thoracentesis	3
Paracentesis	2
Tracheotomy care	2
Transfusions	2
Ethyl cl. spray	2
Infusion	1
Phlebotomy	1
Diets	14
Tube feeding	2
Cholcystectomy tube	1

taining to diagnosis and management should be mentioned. A majority of students and, unfortunately, many instructors approach diagnostic problems by considering all possible diagnoses and ordering laboratory tests for each of the possibilities. Little or no attempt may be made to evaluate the probability of each diagnosis by careful physical examination, meticulous attention to details in the history, and clear reasoning. Thus, a large number of tests may be ordered at great expense to the patient or to the hospital, with correspondingly great strain on the laboratory. The student's total effort consists of jotting down a list to be handed to a clinic aide who arranges for the tests to be done. Frequently the student orders a few extra tests for the sake of "completeness." Contrast this with the approach of a student seeing a patient at home. He knows that laboratory tests are available to him when needed, but the inconvenience of obtaining them, an extra trip to the home, or arrangement for transportation of the patient to the hospital, tends to encourage more discrimination in his initial evaluation. Inspection, palpation, percussion, and auscultation assume new and greater importance. He is inclined to reason more deeply into the problem and review in more detail the history and physical findings in an effort to reach a reasonable diagnosis. Then he may turn to the laboratory for help with a discriminating and mature outlook.

Thus Home Care experience seems to provide special incentives which may be less intense in the wards and clinics for the development of diagnostic acumen. Home Care can provide not only adequate opportunities to employ modern methods of diagnosis and therapy, but also incentive for the student to exercise more judgment, and careful physical evaluation in appraising the necessity for employment of a laboratory procedure.

Continuity of Care

Management of a patient by the same physician over a prolonged period of time is fundamental to comprehensive medical care and was therefore a major objective of the Home Care Program at Cornell. The advantages of such continuity are exemplified in many of the great contributions to clinical medicine made by the late Sir James MacKenzie. He recognized early in his career that prolonged observation could provide the only sound evaluation of diagnosis, prognosis, and therapy. Although observation by the same physician of the same patient for many years is not feasible for medical students, prolonged patient contact within the time limitations of the curriculum merits consideration by medical educators.

It is noteworthy that, unlike patients with private physicians, patients in teaching clinics are often deprived of any opportunity for prolonged contact with the same physician. A recent study of student-patient contacts in the medical clinic at The New York Hospital-Cornell Medical Center prior to institution of the CC & TP revealed that most patients were seen once or twice by the same student-physician, and rarely more than 3 times (21). In order to determine whether continuity of care was in fact being achieved in the Home Care Program, a tabulation was made for the year 1954–55 of the length of time patients remained on home care, and of the number of students who became directly responsible for care of each patient in consecutive semesters. It was found that in this year only one patient was cared for by as many as three students, and fourteen patients came under the care of two students consecutively. However, the great majority—57 out of 72—received all their care under the supervised responsibility of one student.

This degree of continuity was achieved with patients whose duration of stay on Home Care was considerable. The range was from one patient on Home Care for only 2 days to four patients who were on for the whole 365 days of the year. Table 9 reveals how patients were distributed throughout this range; it groups the patients into percentiles and gives the maximum number of days of Home Care for each percentile. It shows that half the patients were on Home

Care for more than 62 days. Many of the patients remained on Home Care into the next academic year, providing excellent opportunities for the long-term study of disease for the incoming student group.

The tabulation suggests that, within the time limitations of the semester, continuity of care was achieved by the Home Care Teaching Program.

IV. ATTITUDES OF STUDENTS TOWARD HOME CARE

A formal signed questionnaire concerning reactions to the Home Care Program was administered during the second semester of the class of 1954 and to the entire class of 1955. Twenty students in the class of 1954, second semester, who had no Home Care patients submitted responses to the questionnaire; similarly, twenty students with Home Care patients returned completed questionnaires. Two students failed to turn in questionnaires. Of the class of 1955, nineteen students had no Home Care patients and three of these failed to return questionnaires, while 66 had a Home Care experience and six of these did not return questionnaires. Thus, a total of 125 questionnaires were handed out; eleven students or 9 per cent failed to turn in questionnaires. Although the questionnaire was not anonymous the students had already obtained their internship appointments when it was given to them, and it was considered likely that frank responses were given.

TABLE 9

MAXIMUM NUMBER OF DAYS OF HOME CARE RECEIVED BY PATIENTS IN 1953–1955, GROUPED BY PERCENTAGES

Patients by Percentile	Maximum Days on H.C.
1– 10	11
11– 20	23
21– 30	30
31– 40	41
41– 50	62
51– 60	90
61– 70	113
71– 80	146
81– 90	221
91–100	673

For the sake of comparison, the responses of students with and without Home Care assignments were tabulated separately. However, the group without such assignments should not be considered as perfect controls, since all students had contact with the program either through their own patient, or through class and informal discussions of Home Care problems.

The questions covered five general areas of opinion: (*a*) reactions to Home Care programs generally, (*b*) reactions to the specific Home Care experience, (*c*) comparison with other types of patient care, (*d*) comparison with other patient experiences in medical school, and (*e*) reactions to Home Care instructors.

TABLE 10

Would you be in favor of a Home Care Program at the hospital where you plan to intern for student participation? (Q. 1a)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	71	53
Undecided	11	33
No	18	14
	100	100
Total Number:	(80)	(36)

Reactions to Home Care Programs

Six questions were asked which, in one way or another, touched on students' general views of Home Care programs.

Close to three-fourths of the students who had cared for a patient at home approved of having a Home Care Program for student participation at the hospital where they planned to intern (Table 10). In contrast, slightly over half the students without experience in Home Care expressed such approval. These latter students were not, however, more likely to disapprove than those with Home Care experience; they were merely more undecided (33 per cent versus 11 per cent). The difference in per cent of positive responses between the two groups suggests that the majority of students with Home Care experience considered it sufficiently worth while to recommend it for

other medical students, whereas those who had no Home Care experience were less convinced. Although not specifically shown in Table 10, it is noteworthy that all nine students with terminal care patients who answered the questionnaire replied positively to this question, to some extent confirming the instructors' impression that terminal care experiences seemed to convince students of the value of home care.

Interestingly, a rather different pattern of responses emerged when students were asked whether they would favor a Home Care Program for intern and resident participation at the hospital where they planned to intern. The question was presented to the class of 1955 only, and, as

TABLE 11

Would you be in favor of a Home Care Program at the hospital where you plan to intern for intern and resident participation? (Q. 1b)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	22	25
Undecided	22	0
No	56	75
	100	100
Total Number:	(60)	(16)

Table 11 indicates, a majority of the class rejected participation in Home Care by interns and residents. However, they did so differentially; those with Home Care experience were less likely to disapprove and more likely to be undecided than those without the experience. Outright approval was expressed by a minority of about one-fourth in each group. It is reasonable to assume that the students identified themselves as the house officers who would be expected to give Home Care; therefore the preponderantly negative response may be interpreted as reflecting a desire for intensive ward experience during the house staff years. More generally, the different patterns of response shown in Tables 10 and 11 may reflect the rather clear image of medical students and their needs which the group held, as compared with a cloudy conception of their educational needs as future house officers. Possibly they believed that extramural responsibilities would unduly distort the medical internship and residency; in this regard it would be of interest to give a similar questionnaire to individuals required to participate in Home Care during residency, as for example, at the Bellevue Hospital in New York City.

Most of the students expressed clear-cut acceptance of the Cornell Home Care Program by indicating that it ought to be continued as part of the fourth-year curriculum at Cornell (Table 12). As in the preceding

TABLE 12

Do you feel that Home Care should be continued as part of the fourth year teaching program? (Q. 4)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	92.5	67
Undecided	5.0	22
No	2.5	11
	100.0	100
Total Number:	(80)	(36)

questions discussed, however, experience in Home Care appeared to make some difference in the opinions students held. Those who had Home Care patients almost unanimously favored continuance of the Program, but this opinion was voiced by proportionately fewer of the students without such patients (67 per cent as compared with 93 per cent). The greater percentage of undecided and negative responses among students who had no Home Care patients would seem to emphasize the importance of direct experience in convincing students that Home Care provides adequate learning opportunity. The two students with Home Care experience (2.5 per cent) who did not favor continuance of the Program warrant comment. One had evidently been scheduling his visits to the patient's home at the height of the rush hour, and the other was his roommate.

Further evidence of the significance students attached to Home Care as an educational experience is contained in Table 13,

which indicates that the majority of students believed that Home Care in medical college would enhance the preparation of future physicians. About the same proportion —three-fourths—answered affirmatively in both groups. Among the remaining one-fourth, those who had Home Care patients were more inclined to be undecided than negative; the reverse was true of students without Home Care patients. The abstract and somewhat indefinite focus of the question may well account for the similar responses by both groups; had the question been more concretely and specifically worded, it is possible that the opinions might have differed more.

TABLE 13

Do you feel that incorporation of Home Care programs into medical school teaching will eventually contribute to the better preparation of the physicians of the future? (Q. 18)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	74	75
Undecided	21	11
No	5	14
	100	100
Total Number:	(80)	(36)

TABLE 14

Would you have welcomed the opportunity to treat a patient with tuberculosis on Home Care? (Q. 12)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	21	42
Undecided	24	19
No	55	39
	100	100
Total Number:	(80)	(36)

Tables 14 and 15 present the general opinions of students concerning the Home Care of tuberculous patients and terminal patients. Relatively few (21 per cent) with Home Care patients would have welcomed the opportunity to give Home Care to a tuberculous patient, whereas 42 per cent of those who had Home Care experience answered the question affirmatively (Table 14). A probable explanation for the difference is that the students who had no experience tended to idealize the possibilities for treating tuberculosis patients at home whereas students who had Home Care experience could visualize more realistically the problems and risks of managing such patients at home. The premise of the students against giving care to tuberculous patients at home may not be correct, but nevertheless probably reflects a clearer concept of the possible shortcomings of Home Care derived from first-hand experience.

Table 15 seems to indicate that the feasibility of home care for terminal patients was demonstrated to the satisfaction of the majority of students in the Program regardless of whether or not they had direct Home Care experience. It would be especially interesting to compare this response with that of groups of students and house officers who had no exposure to a home care program, but such data unfortunately are not available. The responses of the nine students with terminal care patients who answered the questionnaire were all affirmative.

TABLE 15

Can terminal care be provided at home in special instances in a suitable manner? (Q. 22)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	87.5	72
Undecided	12.5	18
No	0.0	0
	100	100
Total Number:	(80)	(36)

Reactions of Students to Their Specific Home Care Experience

About half the items in the questionnaire attempted to determine the reaction of the students to various aspects of their personal experience on Home Care or, if they had no case, to the experiences of their colleagues.

Eighty-six per cent of students with Home Care patients considered their experience worth while, as did a somewhat smaller proportion (61 per cent) of students with-

out Home Care patients (Table 16). As might be expected, a substantial proportion (28 per cent) of those who had no Home Care patient were undecided regarding the value of their colleagues' experience.

When relating the value of the time expended to the experience obtained, however, students were prone to be slightly more critical. About two-thirds with cases considered the experience to warrant the time expenditure, and not quite half of those without Home Care cases had a similar opinion (Table 17). One of the major arguments against including Home Care in the medical curriculum voiced by educators has been that it will place excessive demands on students' time, and the proportions of undecided or negative replies among the students probably reflect this attitude. It may be noted, however, that most of the students were of the opinion that the time spent on Home Care did not distort other aspects of their medical education (*Vide infra*, Table 30).

TABLE 16

Do you consider your experience with your Home Care case to have been worth while (or your colleagues' experience if you had no case)? (Q. 2)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	86	61
Undecided	5	28
No	9	11
	100	100
Total Number:	(80)	(36)

TABLE 17

Was the experience you obtained from your Home Care case worth the time you expended (or your colleagues' experience if you had no case)? (Q. 5)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	69	47
Undecided	13	28
No	19	25
	100	100
Total Number:	(80)	(36)

A large majority (90 per cent) of the students who had Home Care patients appeared satisfied that the care they gave at home was adequate for the patients' interest and welfare (Table 18). Moreover, as Table 19 indicates, about three-fourths of these students believed that the home care provided was not only adequate but in fact represented the optimal way of treating the patient. Understandably, a somewhat smaller proportion of the students without Home Care patients held similar opinions, and this group expressed more uncertainty.

TABLE 18

Was the interest and welfare of your Home Care patient *adequately* served by treatment at home (or your colleagues' experience if you had no case)? (Q. 6)

	Home Care Pt (per cent)	No Home Care Pt. (per cent)
Yes	90	69
Undecided	5	28
No	5	3
	100	100
Total Number:	(80)	(36)

TABLE 19

Was the interest and welfare of your Home Care patient *best* served by treatment at home (or your colleagues' if you had no case)? (Q. 7)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	74	47
Undecided	14	47
No	13	6
	100	100
Total Number:	(80)	(36)

It is noteworthy that only 5 per cent of students with Home Care patients felt that the needs of their patients were not adequately served by home care. This low figure probably reflects the care with which patients were evaluated by members of the staff before being accepted for Home Care. Thirteen per cent of the students with patients stated that the interests of their patients were not best served by home treatment. By subtracting from this figure the 5 per cent who considered Home Care un-

suitable for their patients, 8 per cent of the students are revealed to have considered that another form of care would have been at least as good as home care for their patients' interest and welfare.

Related to the matter of how well the patients' interest and welfare were served by Home Care is the question of whether students deemed the patients selected for them to be suitable for home care. Generally, as

TABLE 20

Was your patient suitable for home care medically? (Q. 8); Socio-economically (Q. 9); Emotionally? (Q. 10)

	Medically suitable (per cent)	Socio-economically suitable (per cent)	Emotionally suitable (per cent)
Yes	83	88	75
Undecided	11	9	15
No	6	4	10
	100	100	100
Total Number:	(80)	(80)	(80)

TABLE 21

Was the family of your Home Care patient emotionally suited to assist in Home Care? (Omit if you had no case) (Q. 11)

	Per cent
Yes	64
Undecided	15
No	21
	100
Total Number:	(75)*

* The total number is 75 rather than 80 because five patients had no families.

Table 20 shows, the students who had Home Care patients believed them to be suitable for Home Care medically, socio-economically, and emotionally. (Students who had no Home Care patient were not expected to answer these questions.) It is of interest that the greatest criticism of case selection was that patients were emotionally unsuitable for Home Care, but even this criticism applied only to 10 per cent of the cases assigned.

Students were somewhat less approving, however, of the emotional suitability of the *families* of Home Care patients (Table 21). Comparison of the last column of Table 20 with Table 21 suggests that students believed the families of their patients to be less often suited to participate in Home Care than the patients were to receive it. This might be a result of the fact that Home Care placed an undue burden on the patients' families, or perhaps it resulted from the greater difficulty of the students in relating to the families than to the patients themselves. At any rate, the response to this question probably indicates that the staff might profitably concentrate more on the family relationship in the Home Care situation when selecting cases.

TABLE 22

Were the medical problems of your patient sufficient to require the amount of medical supervision which you provided (or your colleagues' if you had no case)? (Q. 17)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	75.0	64
Undecided	12.5	28
No	12.5	8
	100	100
Total Number:	(80)	(36)

Table 22 amplifies students' evaluations of the medical suitability of Home Care patients by showing that three-fourths of those with Home Care experience believed that the medical problems of their patients warranted the amount of medical supervision provided. Responses to this question were slightly more favorable than to the question reported in Table 17, above, which asked whether experience gained was worth time expended, suggesting that a small proportion of the students thought their efforts were justified more by the patient's needs than their own.

About three-fifths of the students with Home Care patients felt that their observation of a patient at home improved their insight into the patient's disease (Table 23). Psychiatrists associated with the program have commented on the fact that many stu-

dents in a Home Care setting have been preoccupied with technical problems and beset with feelings of insecurity in an unfamiliar home environment and seemed to develop considerably less insight into the patient's problems than they would have under similar circumstances in the out-patient department. The negative response by 27 per cent of students who had Home Care patients and an undecided response by another 13 per cent seems to support this observation of

TABLE 23

Do you feel that your observation of the patient at home improved your insight into his disease (or your colleagues' if you had no case)? (Q. 20)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	60	67
Undecided	13	25
No	27	8
	100	100
Total Number:	(80)	(36)

TABLE 24

Do you feel that you (or your colleagues if you had no case) were able to provide more for your patient than the services of a social worker, priest, or visiting nurse? (Q. 23)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	86	61
Undecided	9	31
No	5	8
	100	100
Total Number:	(80)	(36)

the psychiatrists in many cases but not as a general rule. The more favorable response by students with no Home Care patients probably indicates that the inexperienced group tended to idealize the Home Care situation as they did with respect to Home Care of tuberculous patients (Table 14).

A major criticism of assigning students to Home Care has been that they would assume roles other than that of the physician. Therefore, instructors were alert to perceive any inclination on the part of the students to undertake responsibilities which would be considered unreasonable for a participating physician. Students were encouraged to make use of extramural services of Visiting Nurse, clergy, social workers, and other agencies rather than to provide such services themselves. The success of this policy seems to be indicated by the favorable response of students with Home Care experiences when asked if they fulfilled more than the role of a social worker, clergyman, or Visiting Nurse (Table 24). Although the question shown in Table 24 is poorly worded, it seems likely that students grasped the intent of the item, which was to learn whether students believed their role in Home Care was that of a physician rather than a social worker, clergyman, or Visiting Nurse.

The availability and use of extramural

TABLE 25

Were extramural facilities, e.g., Visiting Nurse Service, equipment, social service, welfare agencies, adequate to the needs of your case (or your colleagues' if you had no case)? (Q. 16)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	95	59
Undecided	0	41
No	5	0
	100	100
Total Number:	(80)	(36)

facilities were among the more satisfactory aspects of the Program for teaching, and this is reflected in the high proportion of affirmative responses from students concerning the adequacy of such service (Table 25). It is noteworthy that every student with a Home Care patient expressed a definite opinion regarding extramural services (95 per cent were favorable), whereas 41 per cent of those without home care experiences were undecided. These data would seem to emphasize the special value of Home Care in familiarizing students with community agencies available to the physician.

Only about 20–25 per cent of the class, regardless of whether they had a Home Care experience, would have preferred to

have more than one Home Care patient (Table 26). Although the proportion of favorable responses is relatively small, the nature of the question is such that only individuals who were enthusiastic about having Home Care experience would have answered it in the affirmative. This question serves another purpose for the evaluation of the questionnaire in general, since it demonstrates that few of the students felt obliged to answer the questionnaire favorably because of fear of being penalized for an unfavorable answer.

TABLE 26

Would you have preferred more than one Home Care experience? (Q. 3)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	24	22
Undecided	18	31
No	59	47
	100	100
Total Number:	(80)	(36)

TABLE 27

Do you feel that the care you (or your colleagues if you had no case) were able to provide at home compared favorably with in-patient care? (Q. 13)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	61	50
Undecided	15	33
No	24	17
	100	100
Total Number:	(80)	(36)

Comparison of Home Care Experience with Other Kinds of Patient Care

The Home Care instructors sought to create for students an experience approaching that of the ward in content and stimulation, but at the outset they were somewhat doubtful that this would actually be accomplished. Thus it was gratifying to find that about three-fifths of the students with Home Care patients stated they were able to provide care which compared favorably with that for in-patients (Table 27). Furthermore, half the students who had no direct Home Care experience shared the opinion.

As Table 28 reveals, only one-third of the students with Home Care experience were of the opinion that they were able to provide a better quality of care than was provided in ordinary practice, and two-fifths were undecided. It is of interest that a larger proportion (50 per cent) of students without first-hand Home Care experience were favorable toward home care in this respect. The high frequency of visits, supervision by an instructor as well as by a member of The New York Hospital attending staff of special competence, probably provided a type of care superior to average medical practice. Furthermore, the use of facilities such as social agencies, Visiting Nurse Service, and others was optimal because of a close liaison between the professional medical staff, non-medical professional hospital personnel, and the outside agencies. In the instructors' opinions many of these patients could not have been satisfactorily maintained at home under ordinary medical practice. Thus it seems probable that in most cases the students engaged in a superior type of Home Care, even though they were not sufficiently familiar with "ordinary medical practice" to make valid comparisons and to recognize the high quality of medical care in which they participated.

TABLE 28

Do you feel that the care you (or your colleagues if you had no case) were able to provide at home was of a better quality than that exemplified in ordinary medical practice? (Q. 14)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	32	50
Undecided	41	41
No	26	9
	100	100
Total Number:	(80)	(36)

Relation of Home Care to Other Medical School Experience

Several questions which sought a comparison of Home Care with other medical

school activities seemed exceptionally effective in gauging the students' reaction to this experience. The question shown in Table 29 asked for a comparison with the more satisfying experiences of the semester. It is a rigorous test of the reaction to Home Care, since an affirmative answer would indicate that the experience was more satisfactory than any other which had been available in the Comprehensive Care and Teaching Program. Moreover, if the student felt threatened by this questionnaire he might consider an equivocal answer less risky than an affirmative one which might displease teachers responsible for other major aspects of the comprehensive care and teaching program.

TABLE 29

How would you compare your (or your colleagues' if you had no case) Home Care experience with your other more satisfying experiences in the Comprehensive Care semester? (Q. 15)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Better	14	3
Similar	73	70
Worse	14	28
	100	100
Total Number:	(80)	(36)

Thus a positive answer might be considered indicative of an enthusiastic student response (or of enthusiastic dislike for other aspects of the program). A response of "similar" should be interpreted as indicating that the student considered the Home Care experience one of the more favorable experiences of his semester in the CC&TP. The response to the question shows that a majority of students did indeed consider the Home Care experience "similar" to other more satisfying experiences in the comprehensive program. However, eleven students, or 14 per cent of the total with Home Care patients, considered their Home Care experience better than any other during the semester, and an equally small number considered it worse.

Table 30 shows that 80 per cent of the students with Home Care patients were of the opinion that Home Care did not distort the curriculum; 13 per cent were undecided, and 7 per cent felt encumbered. The response of students without Home Care patients was less favorable. The generally favorable response to this question was gratifying, since one of the major objections to student participation in Home Care has been that it may encroach unduly on other important aspects of the medical program.

The two questions shown in Table 31 requested a comparison with the best, and with an average patient experience on the medical ward during the third year and were included only in the 1955 questionnaire. Responses from students who had Home Care patients were requested. Comparison with a ward experience is considered one of the most exacting that can be made. It has been recognized generally that in-patient experience provides students with maximal stimulation and satisfaction. Comments were repeatedly received from medical students that the

TABLE 30

Do you feel that your (or your colleagues' if you had no case) Home Care activities were accomplished without distortion of the other important aspects of your medical education? (Q. 19)

	Home Care Pt. (per cent)	No Home Care Pt. (per cent)
Yes	80	56
Undecided	13	33
No	7	11
	100	100
Total Number:	(80)	(36)

TABLE 31

How did your Home Care experience compare with your best patient experience while you were on the medical ward? (Q. 23) . . . with an average experience on the medical ward? (Q. 29)

	Comparison with best ward experience (per cent)	Comparison with average ward experience (per cent)
Better	15	18
Similar	37	54
Worse	48	28
	100	100
Total Number:	(60)	(60)

fourth-year program would be enhanced by reducing the amount of work in the out-patient department and assigning additional medical ward responsibilities. This opinion was shared by some members of the attending staff. Thus the Home Care program was modeled as closely as possible on the in-patient services. The student response was an important method of determining whether in fact Home Care could be made comparable to ward experience. It was encouraging that 15 per cent of students considered Home Care better than their *best* ward impression and that 18 per cent were of the opinion that the experience was better than an *average* ward encounter. Thirty-seven per cent of the students stated that the Home Care experience was similar to their best on the ward, and slightly more than half the students felt that the experience was similar to an average one on the ward. Twenty-eight per cent of the students compared Home Care unfavorably with an average case on the medical ward, indicating considerable room for improvement.

Evaluation of Teachers in Home Care

The students were asked to express opinions concerning (*a*) experience, (*b*) conviction and enthusiasm, (*c*) supervision and direction provided by their Home Care instructors (Questions 24, 25, and 26). The responses to these three questions were 85–90 per cent favorable and therefore would not seem to require tabular presentation.

Summary of Student Responses to Home Care Questionnaire

In summary, students' responses to the questionnaire indicated that in most cases they were in favor of incorporating Home Care into fourth-year student teaching but were reluctant to include Home Care in the residency training program. Students with Home Care experiences seemed more in favor of student participation than those who had none. About three-fourths regardless of whether or not they had a Home Care patient were of the opinion that Home Care training would better prepare the physician for the future. The response to the prospect of treating patients with tuberculosis on Home Care was generally unfavorable especially from students who had first-hand Home Care experience. The majority agreed that Home Care could be provided in a suitable manner for terminal patients.

Questions pertaining to The New York Hospital Home Care experience revealed that most students considered it worth while. Ninety per cent of the students with cases felt that the interest and welfare of their patients were adequately served at home, but only 74 per cent seemed convinced that they were *best* served by treatment at home. Students without direct encounters were more reserved in this opinion. Most of the students believed that their patients were medically, socio-economically, and emotionally suited for Home Care, but 10 per cent appeared skeptical about the emotional suitability of their patients. A somewhat large number doubted the emotional adequacy of patients' families to participate in Home Care. A preponderance of students were satisfied with the availability of extramural agencies and facilities, and Home Care seemed especially effective in familiarizing medical students with these facilities. The majority were convinced that they were able to bring to their Home Care patients services different from those which would be offered by a priest, social worker, or visiting nurse, and students with first-hand experience seemed considerably more certain about this point. Most would have preferred not to have more than one Home Care experience, but about two-thirds of the students with cases felt that the experience which they acquired warranted the time spent, and about three-fourths of them felt that the patients' medical problems warranted the expenditure. Sixty per cent of the students were of the opinion that their insight into the patient's disease was improved by observation at home.

A comparison by the students of Home Care with other types of patient care revealed that over half of them felt that they were able to provide care at home which compared favorably with in-patient care. Only one-fourth of the students with Home

Care experiences felt that in-patient care was superior. Considerable uncertainty was expressed regarding the ability to provide a better quality of care than that exemplified in ordinary medical practice, and about one-fourth of the students who had Home Care experiences believed that a better type of care was provided in ordinary medical practice.

Comparison by the students of Home Care with other medical school experiences revealed that over 70 per cent considered Home Care one of the more satisfactory experiences of the Comprehensive Care semester, and that 14 per cent of the students actually considered their Home Care experience to be better than other more satisfactory experiences of the semester. Four-fifths of the students thought their Home Care duties were performed without undue distortion of other important aspects of their medical education; and only 7 per cent with Home Care patients believed that such distortion occurred. A comparison made with their experience on the medical wards during the junior year of medical school indicated that about half the students considered their Home Care encounter to be better or similar to the most satisfactory on the medical ward. Twenty-eight per cent indicated that Home Care did not compare favorably with an average ward experience. Eighty-five to 90 per cent of the students with Home Care patients evaluated their instructors favorably with regard to experience, conviction, enthusiasm, supervision, and direction.

On the whole, the responses to the questionnaire seem to reflect the students' satisfaction with Home Care, and strongly suggest that first-hand experience in Home Care provided insights into patient care and community resources which students who had no Home Care patient did not readily acquire.

V. FEASIBILITY OF HOME CARE FOR OTHER MEDICAL SCHOOLS

The preceding sections of this report have demonstrated that Home Care can provide experience in important aspects of patient care not offered in standard curricula, as well as satisfactory case material, instruction, and ancillary services. Moreover, the program was generally acceptable to medical students as revealed by their responses to a questionnaire. In the over-all evaluation of such a program, however, its practicality with respect to administration and financing, case-finding, and possible distortion of the medical school curriculum must also be taken into account. These matters will determine the applicability to other medical college programs and are considered in the present section.

Ease of Incorporation and Administration by Pre-existing University Departments

As has been indicated in Section II, the Cornell Home Care Program was instituted and maintained as part of a larger administrative unit, the Comprehensive Care and Teaching Program. This unit coordinated fourth-year teaching and patient care in the clinics of the Departments of Medicine, Pediatrics, and Psychiatry. It allowed continuity of instruction and care over 22½ weeks and required a small nucleus of full- and part-time salaried physicians as well as ancillary staff members. To introduce a Home Care Program under such conditions obviously presents fewer problems than would occur in the more usual out-patient setting where departmental barriers may be rigid, short periods of time for students in each clinic are the rule, and instruction is often wholly the responsibility of unpaid volunteer physicians who serve a few hours each week. Possibly the CC&TP offered an optimal context for organization of a Home Care teaching program; in any event, its particular features must be kept in mind in assessing the feasibility of a Cornell-type program of Home Care for other medical schools.

In order to carry out a Home Care Program such as the one at Cornell a staff consisting of a full-time physician-director, a full-time nurse, a part-time social worker and a clerk-secretary is necessary. The physician should be trained in internal medicine; the nurse in public health. Night and

weekend coverage may appropriately be the responsibility of the resident medical staff of the hospital. As has been noted, the CC&TP drew upon its regular staff members as well as the resources of The New York Hospital in developing Home Care. Certainly the out-patient department of a general hospital would appear to be the proper place to locate the Home Care staff; and the better organized the hospital, the better the Home Care Program may be expected to be.

Costs.—It is difficult to say what costs would be involved in creating a Home Care Program *de novo* at Cornell. During the first year of operation no specific funds were allocated to Home Care. Expenses were met from the general operating fund of the CC&TP. During the second year $4,000.00 was allocated for Home Care expenditures other than salaries. Only $3,267.09 was spent from this fund. These expenses are itemized in Table 32. The complete annual cost of operation including salaries, rental space, and other hidden expenses was estimated by Dr. Peter Rogatz[3] to be $21,830.00. His cost study is presented in detail in the Appendix of this report.

TABLE 32

CASH OUTLAY BY COMPREHENSIVE CARE AND TEACHING PROGRAM FOR HOME CARE ACTIVITIES, 1954–1955

Oxygen and drugs	$1,401.80
Laboratory and x-ray diagnosis	824.50
Equipment	503.32
Carfare	417.47
Ambulance	70.00
Transport of bodies for autopsy	35.00
Miscellaneous	15.00
	$3,267.09

Adequacy of Case Material in Hospital Area

An important problem for a Home Care teaching program is to obtain an adequate number of patients to be assigned to students. During the first year of the Cornell program, 1953–54, the census ranged between five and eleven patients a day, and the turnover was not fast enough to provide each student with a patient. Attempts were made to have patients referred from other hospitals and a variety of agencies, but it was soon learned that hospitals were reluctant to refer patients to another hospital, and the community agencies had organized programs which precluded referral to The New York Hospital Home Care Program. The few referrals received were not considered satisfactory for Home Care since, apparently, the house physicians from hospitals without home care programs seemed to be unable to judge which type of patient would be satisfactorily managed on Home Care. Moreover, further referrals ceased after one or two rejections of the invariably unsatisfactory applicants. It soon became apparent that most patients accepted for Home Care had previously been treated at The New York Hospital and most of them had been in-patients. Thus it seemed that potential Home Care patients could best be found by examination of daily admissions to The New York Hospital.

Subsequently the director of Home Care reviewed the admissions to The New York Hospital each week for a period of 4 months. The record of admissions maintained by the hospital conveniently listed the patient's address, diagnosis, and ward to which admitted. Every district patient with a diagnosis which might ultimately require Home Care was seen by the director in the hospital, and the possibilities of ultimate Home Care were discussed with a member of the house staff. A record was then kept of all patients seen during the 4-month period who were ultimately admitted to Home Care. It was found that 313 patients were admitted to the hospital from the district, and 6 per cent of these were ultimately taken on Home Care. Thus it was determined that if each of 40 students assigned during a 5-month semester were to have at least one Home Care patient to be followed at least for 1 month, 40 patients should be admitted to Home Care in the first 4 months of the semester, allowing the fifth month for ade-

[3] Assistant physician to out-patients in The New York Hospital.

quate follow-up of the last patients admitted. Additional patients admitted during the fifth month could be assigned to students who desired more than one case. Since Home Care admissions were about 6 per cent of hospital admissions from a given area, the total hospital admissions from an area must be 167 to provide 40 Home Care admissions in 4 months. By reviewing the hospital admission book the sections around the hospital which would provide the required number of admissions could be delineated.

The calculation described here is probably of value for any general hospital Home Care Program which attempts to determine an area that will provide a desired number of admissions. It can be expressed by the formula: $N = 0.06\,x$, where x equals the number of hospital admissions in a given time from the area to be served by Home Care, and N equals the number of Home Care admissions required in that time.

When this principle was realized Home Care activities were extended to an area providing about twice as many admissions as did the hospital district alone. This did not actually require doubling the area served because a relatively small neighborhood north of the hospital district was found to provide a large portion of the hospital inpatients. When this change in area was made the Home Care census grew rapidly and during the last semester every student had one or two patients. Review of the hospital admissions by the Home Care director could be discontinued as a method of case finding after a period of 4 months because the hospital house staff and social workers had "discovered" Home Care as a result of the director's frequent visits to the pavilions and were providing adequate case referrals.

Absence of Distortion of Medical Program by Home Care

Home Care occupied a small part of the 22½-week course in Comprehensive Medicine. Most of the time was devoted to conventional activities such as seeing patients in the Medical, Pediatric, and Psychiatric clinics; conferences, seminars, and a limited number of lectures. The case assignments outside of the hospital were not intended to replace or detract from established teaching practice. For this reason a study was undertaken in 1954–55 to determine how much time students actually spent with their Home Care patients.

When the program was initially established it was apparent that the area in which patients could be given Home Care must be limited to avoid excessive travel time. Students were authorized to use taxicabs at Home Care expense in order to minimize travel time to outlying districts. It was planned that travel should not take more than 10 minutes each way by whatever mode authorized. Students were advised to make visits at times when traffic was light to avoid unnecessary delays. Except for emergencies most visits were made outside of classroom or working hours.

Each time a student made a visit he was requested to record on the face sheet of the patient's chart the length of time taken for making the visit. (Complete records are available for only 48 or about two-thirds of the patients on Home Care in 1954–55; accordingly, the data to be presented are somewhat less precise than would be desirable.)

If the student visited the patient before coming to the hospital in the morning, he started to time the visit when he entered the patient's home and recorded the time of return to the hospital to indicate completion of the visit. If the student visited during the day, total time spent out of the hospital was recorded. If the patient was visited on the way home in the evening, the student recorded the time between leaving the hospital, and the time of leaving the patient's home as the total time of the visit. The face sheets were reviewed frequently by instructors in order to determine whether an inordinate amount of time was spent with any patient. If this appeared to be the case, an effort was made to determine why the time was being spent, and steps were taken whenever possible to shorten the expended time. Simple recommendations, such as to sched-

ule visits at times of the day when automobile traffic was light, or to provide in advance for anticipated sudden needs of a patient, could halve the time spent by a student on Home Care.

It was found that most of the student's visits—including travel time—averaged less than 1 hour. In only three of 48 patients did the average time per visit exceed 100 minutes. Two of these patients were cirrhotic, one of whom was an alcoholic receiving intensive psychotherapy by the student (Case O.E.). The other, F.M., was a 17-year-old boy with carcinoma of the testis who required several thoracenteses each week and a great deal of emotional support. The case of F.M. was considered one of the most satisfactory of all of Home Care experiences. There was no doubt among the people who observed the interplay of physician, patient, and family that the student encountered the problem as a naive youth and emerged with foundations for a mature philosophy of medical care. The return seemed well worth the time expended. Moreover, despite the fact that the student spent a great deal of time on each visit, the patient survived only 6 weeks, so that the total time spent by the student was 20.2 hours, an average of less than 1 hour per week if one considers it over the entire 22½-week course.

The majority of patients required less than 10 hours of total student time during each semester. The maximum expenditure of time on any one patient was 36.5 hours, averaging 1.6 hours per week for the 22½-week course. The patient had Laennec's cirrhosis requiring numerous paracenteses, and displayed a progressively downhill course which called for a great deal of medical and nursing attention. Another patient, A.V., who required 29.7 hours of care, was an elderly man suffering from carcinoma of the bladder and urinary obstruction. He had refused any surgical intervention, and a retention catheter was left in the bladder. The care of this patient during a prolonged and complicated terminal course necessitated a large expenditure of time. The care of R.K., a cripple with coxa malum senilis and stasic ulcers, required 31.3 hours in 2 semesters.

The general conclusion which may be drawn from these data is that the patients on Home Care required a relatively small amount of time that certainly could not be considered to distort other work during the 22½ weeks spent in Medicine, Pediatrics, Psychiatry, and Public Health.

VI. DISCUSSION, SUMMARY AND CONCLUSIONS

Discussion

What is Home Care?—Any medical situation in which a physician administers care in the home of a patient may correctly be called "Home Care." However, recent development of hospital-centered Home Care programs with their emphasis on comprehensive medical care requires a more limited definition to avoid confusion about what Home Care is and is not. A meeting held in June, 1958, by the United States Public Health Service at Roanoke, Virginia, on Home Care revealed considerable current confusion about Home Care, but the definition agreed on there is:

The participation of medical students under supervision of clinicians is desirable but, of course, unnecessary. Essential to such a program are the availability of all hospital facilities, medical consultants from other hospital departments, and the privilege of automatic transfer of the patient into the hospital whenever considered necessary by the responsible home care physician. A continuous and intimate relationship between the patient and physician is a fundamental aspect of comprehensive medical care. Certain formalities such as admission, maintenance of a daily census of the hospital, and discharge from Home Care are additional essentials.

Experience acquired by students not ordinarily provided by standard hospital teaching programs.—Home Care provided students with a number of valuable clinical experiences not readily acquired in traditional hospital programs:

a) Experience with severe organic illness during out-patient clinic assignment. The

traditional course in out-patient medicine provides contact with ambulatory patients, but few of these patients are severely ill; and a large portion suffer primarily from functional illness. Seriously ill patients are usually transferred out of the student's jurisdiction into the hospital or are advised to seek help at a facility away from the hospital. Patients surviving serious illness are kept in the hospital until they are ambulatory or until they can be discharged for further care elsewhere. Students have frequently suggested that their assignments in the OPD be curtailed and more time be allowed on the wards. In most teaching hospitals this would be impractical, since ward teaching facilities would be strained by increasing the number of students assigned. Moreover, the type of experience obtained in in-patient services may not afford the student optimal understanding of the personal factors which affect the ultimate course and therapy of the illness after discharge.

The Home Care Program has given Cornell students who work in the out-patient clinic access to many severely ill patients who provide a more intense, profitable, and varied clinical experience in patient care than has heretofore been available in out-patient services. At the same time the students have continued to see the usual out-patients and are not deprived of experience in the diagnosis and care of ambulatory patients. The questionnaire described in Section IV revealed that a majority of students considered their Home Care experience comparable with an average ward clerkship. Increased staff experience in selection of cases should provide even better comparisons with ward cases. Furthermore, Home Care was able to provide the student with greater responsibility than he had for ward patients, who are traditionally cared for by the resident staff. It is unlikely that a ward service could be set up with medical students assuming the major role in management. The student does not have to compete for control of the patient or assume a minor role as is often the case on medical wards.

b) Development of professional poise and assurance. The personality transformation which occurs in students from their sophomore to senior year of medical college is well known to all teachers of medicine. Poised, assured, and slightly blasé senior medical students are common in every teaching clinic. When such students are introduced to complicated Home Care situations they frequently lose their thin shell of assurance and express doubts about their ability to deal with the problem. The discomfort and insecurity can be dealt with by a skillful instructor who should discuss not only the complexities of the Home Care problem, but also the student's own insecurity. He may point out or have the student suggest ways of coping with various situations which might arise in the course of Home Care and help establish a plan of management. Generally, with a little initial support, the student will regain his poise and assurance which become much more firmly established as he becomes closely involved with the intricacies of Home Care.

c) Sustained contact with patient and family during severe or chronic illness. An experience heretofore not ordinarily available to medical students has been prolonged and intimate contact with severely ill patients. Contacts on the wards have generally been brief and intermittent, since student assignments are frequently shifted and house officers generally assume the burden of decisions regarding severely ill in-patients. Home Care provided students with an opportunity to engage in an intense professional relationship which often included family members as well as the patient. The ability of the students generally to assume this responsibility with varying degrees of support from the instructor has been one of the gratifying realizations of the program. The relationship engendered by Home Care is one that ordinarily might not be encountered until well after the physician has completed several years of house staff training. Observation of students engaging in this form of care has convinced the instructional staff that such relationships are not premature at the student level.

Participation in Home Care prior to the senior year.—There appears to be no justification for asking students to engage in Home Care before the senior year, since successful participation in Home Care requires a degree of professional poise and medical sophistication which is acquired through patient contacts during the junior year. At the beginning of each stage of his training the student tends to feel strange and not entirely legitimate. What physician can forget the size of his stethescope when he first placed it in the pocket of his white coat and the self-conscious manner in which he carried his arm in order to prevent it from striking the instrument with each swing, or the panic preceding his first examination of a woman's thorax, or his uncertainties when for the first time in the out-patient department he was advised by an instructor to manage a patient with congestive heart failure on an ambulatory basis? Home Care provides one additional sequence in the series of constructive anxiety-provoking events in the education of medical students, and it seems unwarranted to expect a student to function as a home physician until he has been accustomed to patient care in the reassuring surroundings of a teaching hospital.

Students' reactions to the complexity of Home Care.—Occasionally students were observed to become confounded by the complexities which confronted them in patients' homes. The problem has been well presented in the following comments by Drs. Peter Janulis and Albert Stunkard, psychiatrists assigned to the Comprehensive Care and Teaching Program, in their Annual Report for 1955–56.

> The psychiatric consultants have made a number of home visits with the students and on the basis of this experience have formulated some tentative hypotheses. It appears that both the preoccupation with detail and the inability to recognize large areas of the social and emotional situation derive from the marked discomfort which many students feel while they are in the patients' homes. The reasons for this discomfort are not clear but it is our impression that they are related to the student's general feelings of discomfort and uncertainty in his new role as a physician. In the medical clinic, the outward evidences of his new role are all around him: the white coat and stethescope, the courtesy of nurses, contacts with experienced physicians, his very familiarity with wards and clinics. Yet we know that even with this support the student's contact with patients is limited by a deep concern over the legitimacy of his activities. How much stronger his feeling must be on the unfamiliar ground of the patient's home. He has not yet learned behavior appropriate to these new circumstances and yet he feels that his accustomed contact is likely to lead to situations which he is even less capable of handling. Furthermore, the patient's behavior in his home may be considerably different from that which he manifests in the clinic. Feeling more secure he is apt to be less formal and restrained, more likely to make unexpected demands or unsettling overtures. Stripped thus of his tokens of authority and finding himself in such a new and uncertain situation the student often finds it most comfortable to concern himself with some detail of technique which he has mastered and to ignore the larger unstructured field.
>
> On our visits with the students we have made an effort to discuss with them not only the patient's problems, but also their reactions to these. This requires a very great expenditure of time but the results are often most rewarding. Students who had previously avoided any consideration of the social and emotional problem of their Home Care patients, or who had been inordinately disturbed by them frequently became the most active in dealing with those problems, and the most gratified by this activity. The teaching problems which have been outlined appear to be inherent in the nature of the Home Care experience. No such program can be expected to teach students very much about social and emotional factors in medical care by mere exposure to the relevant materials. Indeed the discomfort engendered by the experience appears to make necessary closer supervision of the student than he receives in the clinic.

The comments of Stunkard and Janulis suggest that complex social situations encountered in Home Care may distort the perspective of the student and instructor and lead them to focus on single details while overlooking the broader aspects of the problem. The majority of observations made

by Stunkard and Janulis occurred one year after those recorded in this report and do not entirely coincide with the experiences of 1953–55 when it was felt that any strain in student-patient relationships could generally be corrected by the support of the instructor.

The explanation offered by Stunkard and Janulis that the student's uncertainty and discomfort in his new environment accounted for his difficulty is undoubtedly correct. However, the basic fault in some situations was the instructor's inability to orient the student because he himself was unable to grasp the problem. As in any teaching problem a large part of the student's successful performance in home care will depend on the skill of the teachers.

Criticisms of student participation in Home Care.—There has been concern among some teachers that student participation in Home Care might lead to inadequate case study and relaxation of standards compared with the ward and clinics. This criticism may be valid for programs which assign medical students to local private practitioners. However, it is obviously not pertinent to a hospital teaching program of the sort described here, since the supervision provided is the same as for the in-patient service. The only marked change in teaching is that the medical school expands its sphere of operation into the community. Hospital laboratory facilities are as readily available to the Home Care patient as if he were an in-patient. Under supervision by a full-time teaching staff, critical and scientific evaluation by the student is undoubtedly enhanced by his opportunity to observe continuously the interplay of disease, therapy, and home environment.

Another commonly expressed criticism of student participation in Home Care is that they will waste valuable time in traveling. This contention was effectively disproved by the time study which revealed that student visits to their Home Care patients occupied only a short time each week.

Summary and Conclusions

1. A 22½-week course in Comprehensive Care for senior students at The New York Hospital-Cornell University Medical Center facilitated the inclusion of a Home Care Program as part of the students' activities.

2. Operation and organization of the Home Care Program are described in detail. The CC&TP and The New York Hospital provided instructors, social services, advice on nursing problems, equipment, drugs, laboratory services, secretarial assistance, and office space.

3. Home nursing services were provided primarily by the Visiting Nurse Service of New York and less frequently by private duty nurses and Catholic Charities. The Visiting Nurse Service was essential for adequate administration of Home Care.

4. A detailed description of the patients who received home care is presented. The cases provided a wide variety of medical problems, more typical of those encountered on an in-patient medical service than in the out-patient department. Many problems presented a greater complexity than is commonly seen in either hospital wards or clinics. All provided an abundance of medical problems suitable for instruction of senior medical students and required the high standards of modern scientific medical practice.

5. Selected problems in acute convalescent, chronic, rehabilitative, and terminal care could be managed at home as effectively or better than in the hospital. Many of these were of a type not ordinarily available for intense and prolonged student supervision in standard teaching programs. A substantial number of dying patients were admitted, which necessitated definition of a physician's responsibilities in terminal care. Participation of this type of care seemed to provide students abundant opportunities to acquire judgment, maturity, and insight into the meaning of physician-patient relationships. Lack of consensus concerning the philosophy of terminal care among students and practitioners indicated that no rigid rules could be established but that each regi-

men would depend upon the particular medical needs of the patient and the philosophy of the responsible physician.

6. The reaction of students to Home Care was determined by means of a questionnaire and was found to be generally favorable.

7. A study of time spent by students on home visits revealed that it usually did not average over 1 hour weekly and produced no important distortion of the entire curriculum.

8. The students could establish themselves as the patients' physicians and made most of the visits alone. Instructors supervised patient care by conferring with the students after each visit, accompanying the junior physicians whenever necessary or when procedures other than drawing blood specimens were contemplated. This arrangement appeared safe; no therapeutic misadventures were encountered because of it.

9. Continuity of care was readily accomplished by students on the Home Care Program.

10. A Home Care Program like that at The New York Hospital-Cornell Medical Center is feasible for any medical college in an urban center where Visiting Nurse services are available and should enhance the preparation of medical students for their future practice of medicine.

11. The experience of the Cornell Home Care program at The New York Hospital seems to establish the value of extramural resources in the education of senior medical students and offers a valuable supplement to traditional methods of teaching medical care. Experiences acquired by the student enhance the medical curriculum by introducing professional situations similar to those which will ultimately challenge him in future medical practice, and provide an opportunity to develop poise, assurance, and insight into the many complex factors affecting illness.

FOLLOW-UP REPORT ON THE PROGRAM: 1955–60

F. T. Kirkham, M.D.[4]

In the years 1955 to 1958 the Home Care Program has remained a regular part of the fourth-year student's activity in the Comprehensive Care and Teaching Program. Re-evaluation of the program by the teaching staff has further substantiated the conclusions reached by Dr. Sonkin, and the organization of the program has remained approximately the same as in the preceding description.

In the past 3 years it has been possible to assign a patient for Home Care to almost every student in the Program. This makes the Home Care Program readily manageable, with 65–75 admissions per year and an average daily census on Home Care of between twenty and 30 patients. The types of patients on the program and the amount of time spent by the student have remained about the same as in 1953–1955. A full-time nursing coordinator is now employed.

Continued emphasis has been placed on Dr. Sonkin's point that a primary criterion for choosing a patient be the real need for medical care in the home. Every effort is made to keep the student's role that of a physician responding to a definite medical problem, and the student's reaction to the situation is kept under review. In some cases, especially chronic and terminal illness, there have been features of the situation that were frustrating or otherwise disturbing to the student, and this frustration was demonstrated by withdrawal from the patient. Perhaps more often, a student may become excessively involved with a patient, increasing the time spent and altering his role more toward a social relationship. Both types of reaction receive careful attention and are usually modified by discussion with the teaching staff.

The appropriate use of the facilities of a medical center and of other resources in the

[4] Present director of Home Care, New York Hospital-Cornell Medical Center.

community is particularly well illustrated in the care of patients who have been in the Home Care Program. Maximal flexibility has been the goal in moving these patients to the out-patient care and efficient utilization of medical manpower and facilities. Other community facilities are used whenever appropriate. The same student follows the patient as closely as possible through such changes in the locus of care. In the outpatient department the student usually continues direct responsibility for the care of the patient, and in other situations he becomes a close observer of the patient's care, often cooperating very effectively with the in-patient staff in aiding the patient's adjustment to the hospital.

During the past 5 years there have been interesting experiences with the teaching values of cases accepted on Home Care, despite some disturbing home or family problem presented by the patient. Often this takes the form of accepting a patient for temporary Home Care until more suitable permanent plans can be arranged for the patient. With close supervision such cases can be excellent teaching experiences in terms of forceful illustration of personal, social, and economic barriers to optimal medical care and the ways in which some of these barriers may be dealt with. These barriers may be frustrating to the student, but a certain amount of frustration with supervision and support from more experienced physicians seems to be well tolerated and often valuable.

At the conclusion of 8 years of experience with teaching medical students in a Home Care Program, it is our conviction that this type of program provides valuable material for teaching patient-care in a comprehensive manner.

APPENDIX

COST OF OPERATING THE HOME CARE PROGRAM OF THE NEW YORK HOSPITAL–CORNELL MEDICAL CENTER, 1954–1955

Peter Rogatz, M.D.

Home Care programs have often been misunderstood as a substitute for hospital care. These programs are not—and must not be considered—as such a substitute (16). Patients on Home Care receive a type of service that differs in scope and intensity from hospital care, and any patient requiring hospital care at a given time should not be placed on Home Care during that time. The cost of operating a Home Care program should not be justified on the grounds that it is saving the cost of prolonged hospitalization of a number of patients, since general hospitals will rarely tolerate prolonged stays by patients with long-term illnesses. However, it is certainly desirable to know the cost of running a Home Care program, as long as this incorrect assumption is avoided. The following, therefore, represents an attempt to estimate the cost to The New York Hospital-Cornell Medical Center of operating its Home Care program.

Determination of the annual operating expense of any given program in a large general hospital can rarely be satisfactorily accomplished merely by examining the budget, since some of the personnel listed in that budget will be functioning part of the time in *other* programs within the hospital, and since some of the expenses of that particular program may be met directly or indirectly by the budgets of other departments or programs of the hospital. This problem was encountered in determining the operating expenses of the Home Care Program, and is illustrated by the following examples.

The Home Care Director spends a full 35-hour week on home care or *other* activities related to the CC&TP but only about 10 hours on activities related to the Home Care program itself. Accordingly, although all of his CC&TP salary is provided by the budget for the Home Care Program, only 10/35 of that salary has been allocated as a Home

Care expense in the calculations presented below. Conversely, the Director of the CC&TP, none of whose salary is derived from the Home Care budget, actually spends 2–3 hours a week on Home Care matters, and a part of his salary had therefore been allocated as a Home Care expense in the following calculations.

A second problem in studying the cost of operating the Home Care Program is the difficulty of obtaining a complete set of data for any given year. Detailed data on the cost of laboratory services, diagnostic radiology, medications, Visiting Nurse Service, and certain other items during the year July 1, 1954—June 30, 1955 were compiled by Dr. Sonkin. An attempt has been made to collect all other pertinent data for that year, but in a few instances it has been necessary to rely on individuals' memories. Occasionally, where cost figures for 1955–56 were readily available and those for 1954–55 were not, the former were used. Such instances have been footnoted in the following presentation and fortunately involved only relatively stable items such as telephone service and malpractice insurance, which would not be expected to fluctuate significantly from year to year. Occupational therapy was not provided for Home Care patients during the year 1954–55, but was a regular service during 1955–56. Since it is hoped that this will become a permanent part of the program, cost data for the latter year have been included.

The Home Care Program served a total of 73 patients from July 1, 1954, through June 30, 1955, of whom 58 were new patients not previously served by the program. Altogether there were 81 admissions during the year, since several of the 73 patients were discharged from and readmitted to the program during that year. These patients were under care of the program for a total of 5,714 patient days. This figure, which does not include time *in between* admissions in the case of patients discharged and readmitted during the year, represents an average daily census of 16.

Tables 1A and 2A, which represent an estimate of the total operating expenses of the Home Care Program during the year 1954–55, should be interpreted in the light of the average daily census of 16.

As indicated in Table 1A, the total cost to The New York Hospital-Cornell Medical Center of operating its Home Care Program during the year 1954–55 is estimated at $17,989.02. This figure excludes two major items—Visiting Nurse Service and housekeeping service. As will be seen from footnotes (§) and (#) of Table 1A, the value of nursing service provided to home care patients during 1954–55 was $3,470, and the estimated value of housekeeping and homemaker service was $3,300 (in addition to $200 worth of housekeeping service provided at the expense of the medical center). The addition of these two items, totaling $6,770 would increase the cost figure by almost 40 per cent, to a total of $24,759.77. This figure reflects more accurately the cost of operating the program, and makes the cost statement more consistent with those of other programs, which usually include nursing and housekeeping services.

If the total of $24,759.77 is divided by 5,714, the number of patient days[5] of care rendered by the program during 1954–55, the resultant figure of $4.33 will represent the average "cost per home care day." (Two other measures of cost were considered and rejected. "*Cost per patient*" was rejected because the Home Care experience of some patients lasts more than 1 year, and could not be determined from the available data. "*Cost per illness*" was rejected partly for the same reason, and partly because of the difficulty of determining when an "illness" begins and when it ends—particularly when dealing with long-term illnesses.)

[5] The concept of Home Care "patient days" is borrowed from the more conventional concept of the hospital patient day. The former may be defined as that period of service or medical supervision rendered a Home Care patient between the census-taking on 2 successive days, the day of discharge being counted only when the patient is admitted and discharged on the same day. Every 24-hour period between the day of admission and the day of discharge is counted, even though the patient may receive no specific service on certain days.

TABLE 1A

ESTIMATED ANNUAL OPERATING EXPENSES FOR HOME CARE PROGRAM, THE NEW YORK HOSPITAL-CORNELL UNIVERSITY MEDICAL CENTER*

Salaries of home care staff:†	
Director of Comprehensive Care and Teaching Program (2½ hrs/wk)	
Home Care Director (10 hours per week)	
Public Health nurse (1/3 time)‡	
Social worker (1/3 time)‡	
Residents (2½ hrs/wk for each of four residents, totaling 10 hrs.)	
Secretary-clerk (3/4 time)	
Total, salaries of home care staff	$ 9,597.66
Other professional or personal services:	
Medical students (contributed services)	.....
Visiting Nurse Service (contributed services)§	.....
Laboratory and diagnostic radiology#	824.50
Medications (including oxygen)#	2,558.66
Transportation (for staff, medical students, and patients)#	1,188.20
Visits by Home Care patients to OPD (8 visits/month at $3 each)||	384.00
Consultations**	100.00
Occupational therapy (160 hours at $2.50/hour)††	400.00
Housekeeping and homemaking services‡‡	200.00
Total, other professional or personal services	$ 5,655.36
Other expenses:	
Rental of office space (320 square ft. at $2.15)§§	$ 688.00
Depreciation of capital equipment (see Table 2)	432.80
Nursing and sick-room supplies##	100.00
Drug closet	50.00
Miscellaneous equipment and supplies loaned by Social Service Dept.	100.00
Contingency fund	100.00
Telephone††	102.00
Answering service††	168.00
Library (professional library and circulating library for patients)	150.00
Record room services (81 admissions at $.70 each)	56.70
Malpractice insurance††	546.98
Social security (2 1/4 per cent of total salaries)	226.52
Postage	15.00
Total, other expenses	$ 2,736.00
GRAND TOTAL:	$17,989.02

* All items are based on data for the year July 1, 1954–June 30, 1955, unless otherwise specified.

† The amounts of time shown for all personnel are estimates of total time spent on Home Care activities, exclusive of other CC&TP activities or other hospital activities, and are based on a 35-hour week.

‡ Although more than one staff nurse and more than one social worker provided services to Home Care patients during 1954–55, these figures are estimates of the time that would be required if all such services were provided by a single public health nurse and single social worker. V.N.S. activities are not included here, since their personnel are not part of the home care staff.

§ The Visiting Nurse Service of New York does not provide free service to other home care programs in New York City, but has done so in this instance as a contribution to this experimental program in medical education. According to data compiled by the Home Care Director in 1955, the Visiting Nurse Service contributed $3,470 worth of service during 1954–55.

Based on data compiled by Home Care Director for 1954–55.

|| Based on special study during April 1955.

** Based on estimate by Home Care Director.

†† Based on data for 1955–56.

‡‡ There is no provision in the Home Care budget for this item, but an estimated $200.00 per annum is spent out of the hospital's social service funds to provide housekeeping services. In addition, Home Care patients receive about $800.00 worth of housekeeping service from the New York City Department of Welfare (only public assistance

Of the various cost measurements considered, "cost per Home Care patient day" appeared to be most meaningful, and also the one most easily comparable with cost statements of other Home Care Programs (6). However, it must be stressed that cost per *Home Care* patient day cannot be validly compared with cost per *hospital* patient day. The average per diem cost of hospital care includes certain basic items such as room, board, housekeeping, laundry, and other services provided for all hospital patients that are not subject to great variation among different patients in the same hospital.

By contrast, the average cost per Home Care patient day conceals a much wider range in the frequency and type of services provided. There are few basic services provided *every* patient. Some patients receive housekeeping services; others do not. Some receive visiting nurse services; others do not. Medical visits may vary from several times a week to once every couple of weeks, and although a similar variation in professional services may be cited with regard to in-patients, one basic difference must be recognized. There are no routine daily services for Home Care patients; indeed, almost every Home Care patient will spend 2 or 3 or more days each week during which he receives no specific service from the Home Care Program. Nevertheless, he is still under the care of the Program during such periods, is registered as a Home Care patient, and represents part of the Home Care census. It is apparent that "cost per home care patient day" represents quite a different concept from the more familiar "cost per patient day" for hospital in-patient care.

The figure of $4.33 per Home Care day for the Cornell Program is slightly higher

TABLE 2A

ESTIMATED ANNUAL DEPRECIATION ON CAPITAL EQUIPMENT

Item	Cost*	No. items	Annual depreciation†
Hospital gatch beds	$ 65	2	$ 13.00
Mattresses	32	2	6.40
Overbed table	60	1	6.00
Wheelchairs	96	2	38.40
Walker	76	1	15.20
Chart rack	375	1	25.00
Four-drawer file cabinet	89	2	8.90
Desks	125	3	18.75
Desk chairs	25	3	3.75
Folding chairs	6	8	8.40
Typewriter	640	1	128.00
Direct-writing EKG	785	1	157.00
Vital Capacity machine	40	1	4.00
Total Annual Depreciation:			$432.00

* Cost figures are for single items, and are approximate.

† Calculated by estimating no. of years of useful life for each item, all estimates being 5 years or multiples thereof.

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clients are eligible, of course), and about $2,500.00 worth of homemaker service from such agencies as the National Cancer Foundation. In the past the Home Care Program has not been charged for these services, but budgetary provision for this item would be highly desirable.

§§ Based on use of K-410 plus one other small room on a full-time basis, rather than the part-time use of several rooms, as has generally been the practice. The figure of $2.15 per square foot includes maintenance, building services, depreciation on buildings and fixtures, light, heat, power, and elevator operation.

Includes such items as syringes, dressings, bed pans, urinals, hot water bottles, heating pags, bathroom scales, rubber rings and cushions, draw sheets, etc.

than comparable figures from the Home Care Programs of Montefiore Hospital in New York, Montefiore Hospital in Pittsburgh, the Jewish Hospital of St. Louis, and the Reddy Memorial Hospital in Montreal, all of which reported expenditures in the neighborhood of 3–4 dollars per Home Care day (7).

The per diem cost of $4.33 is also higher than the figure of $3.58 estimated in the Hospital Council's study (7) as necessary for adequate operation of a Home Care Program. These differences are not too surprising, since the Cornell Program—as an educational program—has certain features that were not included in formulating the Hospital Council's estimate. Furthermore, the Cornell Program, because of its relatively small size, would probably be economically less efficient than a Program with an average daily census of 100, on which the Hospital Council's estimates were based.

If $4.33 is taken as accurately reflecting the average per diem cost of operating the Home Care Program of The New York Hospital-Cornell Medical Center, we must still remember that there are significant costs to the families of Home Care patients that are not included in this figure. The Hospital Council's study (8) estimated that the cost to a Home Care patient's family of such items as food, laundry, rental, electricity, telephone, and clothing averages $61 per month, or about $2.00 per Home Care patient day. The over-all cost to the community, therefore, is not reflected in the cost estimate given here.

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Medical Education at the South German Universities in the 15th and 16th Centuries

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The German universities are late imitations of foreign examples. The University of Paris served as a model for the South-German Universities founded in the 14th and 15th centuries. Their statutes either have directly given the example for the constitution of the university, as in the case of Heidelberg, or were decisive for the construction of the South German Universities via the statutes of the University of Vienna, as for example Freiburg and Ingolstadt. In accordance with the Paris example, the medical education at the South German Universities in the 14th century took its course in a schoolmannerly commentary. As to other disciplines, medical education knew only two methods: explanation of the text and discussion. The lectures were founded on Arabian authors which the lecturer recited sentence by sentence and then interpreted. The discussions, which were to stimulate independent thinking, completed the education of the future physician. Besides this way of teaching, botanical excursions and the rare anatomical demonstrations played only a secondary role.

Since the *Geschichte des medizinischen Unterrichts* (History of Medical Education) by Theodor Puschmann, published in 1889 and still today indispensable,[1] it has often been shown how slowly a change in medical education came about with the invasion of the classical ideas, how the central emphasis was transferred from Arabian authors to classical authors. In 1933 Stephen d'Irsay had worked out clearly this development in his two-volume, fundamental *Histoire des Universités;*[2] he shows that humanism has found its way from Vienna and Basle to the South German Universities.

Although the process of the aversion from scholasticism at all universities north of the Alps took place in a similar manner, it would be unsatisfactory to be content with this principal statement. A series of important source researches of the last decade completed and perfected in many directions the thus far valid picture of medical education in the 15th and 16th centuries. They show that the familiar pattern cannot be applied everywhere and that the change in medical education at the different South German Universities—Heidelberg, Freiburg, Ingolstadt, Tuebingen—shows remarkable differences, depending upon whether the medical faculty behaved liberally or conservatively toward the new tendency. The medical faculty of Wuerzburg, which met only in 1593, remains out of the province of our inquiry, since it only participated for 7 years in the described epoch, and during that time did not include any specialties in its curriculum.

The result of the research concerning the oldest South German University, Heidelberg, remains unfortunately meager because the faculty documents of the first 170 years have not reached us. As in Leipzig later on, where, according to the research of

[1] Th. Puschmann, Geschichte des medizinischen Unterrichts von den aeltesten Zeiten bis zur Gegenwart. Leipzig, 1889.

[2] Stephen d'Irsay, Histoire des Universités Françaises et Etrangères des Origines à nos Jours. Vols. I, II. Paris, 1933.

Karl Sudhoff,[3] the medical faculty could unite only years after the establishment of the University, so also in Heidelberg a medical faculty originated only 4 years—in 1390—after the establishment of the University. It does not really earn this name, since it was only represented by one teacher in the beginning. Only 100 years after the university was founded, 1482, a second medical professorship was created, followed by a third paid chair in the year 1522. Presumably, the small number of medical students who at that time were eager to gain knowledge at German Universities is responsible for this slow development. Most of the German students preferred to study in Upper Italy or Paris.

Upon what books medical education, which was handled in a strict scholastic method, was based in the first two centuries of the existence of the faculty we can only conclude from a reference from the year 1452. In that year the faculty already intended to appoint a second and third teacher for medicine; as teaching material for the first one, Avicenna was advised; for the second one, Hippocrates; for the third one, Galen.

This teaching material corresponds with the study plan for the first decade of the University of Freiburg, founded in 1457, about whose medical faculty we are oriented through the solid research work of Nauck.[4] The study of the young physicians began here with the *Aphorisms* and *Prognosticon* of Hippocrates, which was to be finished within a year. Then followed Galen's *Techne* (Ars medicinalis), for which 30 weeks were allowed. The main part of the curriculum were the lectures, lasting 2 years, about Avicenna's different writings. In addition, the disease theory according to Rhases was lectured on, based on his 9th book of the *Liber medicinalis ad Almansorem*. A third Arabian author, Hunain Ibn Ishak, was presented in the study list for facultative lectures.

The same method of lecturing was probably applicable for the faculty at Tuebingen, about whose beginning we are no better oriented than we are about that of Heidelberg. However, the faculty records of Tuebingen did not get lost as did those of Heidelberg—they are completely preserved; but in the years 1477 to 1535 they were kept in such slovenly manner that Leonhart Fuchs, when he became Dean in Tuebingen in 1535, rightfully mourned: "One can learn best about how negligently the business of the medical faculty was managed from the fact that my predecessors did not leave one word behind from which posterity could learn what they have done."[5] Fuchs maintains to have found only two mortgages for 4 Gulden annual tax, the silver seal, the book of regulations, and a small amount of cash. Nevertheless, from the articles it is to be learned that the books of Galen, Hippocrates, Avicenna, and other Arabian authors were to be the foundation of education.

Arabian medical literature is, therefore, the center of education in Freiburg, Heidelberg, and Tuebingen in the 15th century; in addition, one finds Galen's name everywhere. Certainly, it is still an Arabian Galen, whom we meet only with one treatise—the *Ars medicinalis*—in the study lists and whose work cannot be compared with the development of 100 years later; but he has already found a secure place in education. Considering that in Basle, too, Galen's works are named next to Arabian authors; that in Vienna candidates had a choice between Avicenna, Galen, or Hippocrates in examinations, one is the more surprised, not to find Galen's name in the study list of the then most important South German University, Ingolstadt, the forerunner of the University of Munich.

Founded in 1472, as an offspring of hu-

[3] K. Sudhoff, Die medizinische Fakultaet zu Leipzig im ersten Jahrhundert der Universitaet. Leipzig, 1909. (Studien zur Geschichte der Medizin. H. 8), p. 5.

[4] E. Th. Nauck, Zur Geschichte des medizinischen Lehrplans und Unterrichts der Universitaet Freiburg i. Br. Freiburg, 1952 (Beitraege zur Freiburger Wissenschafts- und Universitaetsgeschichte. H. 2).

[5] J. Haller, Die Anfänge der Universitaet Tuebingen 1477–1537, p. 133/4. Stuttgart, 1927.

manism, by the Bavarian Elector Ludwig the Rich, Ingolstadt possessed from the beginning the four well known faculties: Theology, Law, Medicine, and Art. Already the day after the festive opening of the University—the 27th of June, 1472—the three medical professors Johannes Trost, Ulrich Ellbogen, and Andreas Reder came together to constitute the faculty. Compared with other contemporary Universities, the "facultas saluberrima" at Ingolstadt was surprisingly well equipped. All indications for a favorable start were exhibited.

The expectation, that the classical spirit which was present at the foundation of the University would have left its mark on medical education, is not fullfilled; on the contrary, it is evident that the newly founded faculty was not even at the same level with other medical educators of the time. For lectures, almost only Arabian authors were used; from among the classics, only Hippocrates is named. For the baccalaureate exam, the regulations demand that the candidates must be able to recite several "puncta" from Hippocrates' *Aphorisms* and from Avicenna's Canon—"recitare debet" it is called in the latin text.[6] During the doctoral exam, the "tentamen," the candidate has to answer the given questions in writing; for theoretical medicine they are taken from Hippocrates, for practical medicine from Rhases or Avicenna.

Galen's name is not mentioned. Must one deduct from that that Galen's works were not used in medical education in Ingolstadt? We do not have a study list from the starting point—other sources give only incomplete information. Besides the statutes, another proof for the neglect of Galen is apparent from the order of the exams from the beginning of the 16th century (1507) in which there is an exam concerning the works of Hippocrates, Avicenna, and Rhases, but nothing about Galen. On the other hand, we find in the first catalogue, dated 1508, of the yet very modest University library, among the few medical works, next to Rhases, Avicenna, Mesue, also Galen's name, and even that of Arnald of Villanova.[7] However, far into the 17th century Arabian authors were in the foreground in the medical education in Ingolstadt.

Medical education of the 15th century cannot—according to corresponding information from South German Universities—always have complied with the expectations of governments and students. During the last decades of the 15th century the negligence of the professors was lamented, a reproach which did not quiet down during the 16th century. They were not equipped to explain the works upon which their lecture was based. As the Cognomen of a "dictator perpetuus" (perpetual dictator)—which was given even to ingenious teachers—shows, these explanations often consisted only in dictating,—"ad pennam aut ad calamum dare"[8]—and in the reading of the lecture from manuscripts, interrupted now and then by an offhand explanation. Therefore, it was not much of a loss for the audience if, during the illness of one of the professors, his assistant, or even, as was the case once, the professor's wife lectured.[9] A plan of the regents of the University of Ingolstadt, dating from the year 1497, throws a characteristic light upon the disorder and lack of zeal of medical professors: according to it, professors of Theology and Law should be permitted ten unexcused absences per semester, medical professors twenty. For each additional hour a deduction on their salaries was threatened.[10] The regulations of Tuebingen and Heidelberg from the 16th century required strict lecture duties: each

[6] C. Prantl, Geschichte der Ludwigs-Maximilians-Universitaet in Ingolstadt, Landshut und Muenchen, Vol. II, p. 42. Muenchen, 1872.

[7] C. Prantl, Vol. I, p. 140.

[8] A. v. Rothmund, Ueber die Entwicklung des medizinischen Studiums an den Universitaeten Ingolstadt, Landshut und Muenchen, p. 5. Muenchen, 1884.

[9] Rothmund, p. 5.

[10] Prantl, Vol. I, p. 103.

missed hour had to be reported and was punished with a fine.[11]

The conservative attitude of the Ingolstadt medical faculty, their clinging to the scholastic education method, and their esteem of Arabian authors found support and promotion in the 16th century after the outbreak of the Reformation and the appearance of the Jesuits at the Universities. Ingolstadt became, under Johann Eck, the pioneer of catholicism, a counterpart to the protestant Wittenberg. The formal inquisitions against Lutheran professors also befell the medical faculty decisively. Fanaticism and religious intolerance drove out the most important Ingolstadt physician, who had occupied his chair but a few years, Leonhart Fuchs. In 1533 his lecture permission was taken away. He had never denied his Lutheran faith. He retired to Ansbach, saved—as he writes—"ex Ingolstadiensium sophistarum faucibus"[12] (out of the throat of the Ingolstadt sophists); from there he accepted a call to Tuebingen in 1535, where he worked till his death. His banishment is the more important for the development of the medical faculty of Ingolstadt, since Fuchs was a passionate champion of Galen and a bitter enemy of Arabian literature.

In Tuebingen, Fuchs met a situation which could not be more ideal for his classical ideas. Duke Ulrich von Wuerttemberg had just started a complete reform of the University which came close to a new founding. The old curriculum and teaching material were annulled and substituted by new ones. To all faculties new classical scholars were appointed. With Fuchs a new spirit moved into the medical faculty; he completely eliminated the Arabians from the lectures and substituted classical authors for them throughout.

There was ferment in all South German Universities in the middle of the 16th century. The time was ripe for a reform of medical education, and understanding princes did not offer any difficulties. For Heidelberg, the new period begins with the year 1558, owing to Ottheinrich's initiative. The regulations for the medical faculty given in that year remained valid without any major change till 1743. Medical education had changed completely—it was based almost exclusively upon Galen's works. Besides that, Hippocrates' *Aphorisms* and the *Prognosticon*, as well as some books by Alexander of Tralles and Paulos of Aegina were used. Arabian authors were completely eliminated. Although the contemporary medical authors, Vesalius, for example, were not yet considered, one must not fail to recognize the attempt to use contemporary observations and experiences along with the Greek classics.

Even more progressive were Vienna and Freiburg. Through their lively intercourse with Italy, the faculty of Vienna led an uncomparably more rich and realistic life than did her south German sister. The curriculum of 1537 already indicates that it was the task of the professor tertarius to give the lecture in surgery according to Lanfranchi. Similar thoughts were also expressed some decades later in Freiburg; they parallel the development of medical education in Ingolstadt. Here, in place of Leonhart Fuchs, had come his important contemporary, Johann Peurle, who had at first held the professorship for Greek, and then had changed to medicine. Peurle's love of antiquity and his profound knowledge of Greek made him not only take over Fuchs' chair, but also his intellectual heritage: like his great predecessor, Peurle advocated the elimination of the Arabs and their substitution by Galen. His efforts were at first successful—the curriculum published by

[11] E. Stuebler, Geschichte der medizinischen Fakultaet der Universitaet Heidelberg 1386–1925, p. 38. Heidelberg, 1926. Also: G. Ritter, Die Heidelberger Universitaet. Ein Stueck deutscher Geschichte, pp. 229–34. Band 1, Das Mittelalter (1386–1508). Heidelberg, 1936.

[12] E. Stuebler, Leonhart Fuchs, Leben und Werk. Muenchen, 1928. (Muenchner Beitraege zur Geschichte und Literatur der Naturwissenschaften und Medizin. H.13/14), p. 4 (p. 168).

Nauck,[13] in the middle of the 16th century, is most likely Peurle's work. In it, 120 writings of Hippocrates and Galen are cited, a number which surpasses everything that was included at other German universities at that time. The Arabs are only mentioned slightly outside of the regular curriculum.

Unfortunately, this revolutionary plan was only valid for a short time in Ingolstadt. Peurle died in 1570. In 1571 the faculty returned to the "old solid, correctly called catholic" medicine,[14] ready to defend it against all innovations, particularly against the principles of the Paracelsists. As a timetable of 1571 shows, the faculty understood among this older, catholic medicine the connection to Arabian and Greek tradition. Thus, the Arabians had once again occupied a firm place in education, although they no longer played the dominant role; besides them, Galen is granted a large amount of space. For surgical instruction, one even turns to Guy de Chauliac. Although this development is undoubtedly a retrogression of Peurle's goals, his work was not in vain; the absolute predominance of the Arabs in Ingolstadt had been broken.

The effects of Peurle's modern Ingolstadt plan are clearly evident in Freiburg. In October 31, 1573, the medical faculty of Freiburg submitted a document to their sovereign in which they cited their opinion concerning the further instruction of medical students. According to it, contemporary authors should be used along with classical authors: Fuchs, Mattioli, Ruelle, and others. This plan was so new that the Archduke Ferdinand decided to request the expert opinion of his physicians in ordinary and of the Ingolstadt Medical Faculty which had meanwhile returned to the "old, more solid medicine." The archduke agreed with the result of this "vota," according to which the classical authors were to remain in the foreground, while the modern authors were only to attain a modest part in private lectures. In 1577 the Freiburg Medical Faculty saw itself forced to succumb to the orders of their sovereign and to consider the conservative Ingolstadt curriculum of 1571. Besides Hippocrates, Galen, Dioskurides, Celsus, Oreibasios, and Alexander of Tralles, Freiburg also accepted Avicenna and Rhases again. The reformers of medical education had lost a battle. Only in the beginning of the 17th century was an innovation of the Freiburg medical regulation carried through in which, besides Fernel, still another "Neoterici" is referred to whose names, however, are not mentioned.

It is not surprising that, owing to the general conservative attitude of the South German Medical Faculties up to the 16th century, hardly anything is reported about anatomical demonstrations. One exception is Tuebingen, where the regulations state that every 3–4 years a dissection should take place.[15] For this one needed a special permit from the pope, which the faculty in 1482 received from Rome for an amount of 3 Gulden. It has not been proved whether this regulation was always observed.

From other contemporary universities—Heidelberg, for instance—there is no information concerning a similar regulation on dissection. The Ingolstadt professor, Heinrich Palmatius Leveling, takes pains to draw a favorable picture of the anatomical instructions in Ingolstadt in his *Historia chirurgico-anatomica facultatis medicae Ingolstadiensis*, published 1791;[16] he furthermore does not fail to emphasize the education of Ingolstadt anatomists by famous Italian teachers like Berengario, Aldrovandi, Aranzio, and others; he had to admit, however, that anatomy was in the beginning taught only theoretically at his university and that dissections did not take place. Only a few voices demanded dissection at the beginning of the 16th century, like those of

[13] E. Th. Nauck, Der Ingolstaedter medizinische Lehrplan aus der Mitte des 16. Jahrhunderts. Sudhoffs Archiv Gesch. Med., Naturw., **40:** 1–15, 1956.

[14] Prantl, Vol. I, p. 317.

[15] Haller, p. 109.

[16] H. P. Leveling, Historia chirurgico-anatomica facultatis medicae Ingolstadiensis. Ingolstadt, 1791.

Peysser and Beham—who already, in 1507, recommended dissections as at Tuebingen and also requested, for Ingolstadt, the deliverance of corpses of executed criminals; however, they remained unheard. Only 50 years later one finds in the university archives the regulation that anatomy was to be demonstrated on male and female corpses as often as possible.[17] In the additional recommendation of animal dissection, however, it was pointed out that this was not often possible. Nevertheless, the medical student had at his disposal a demonstration skeleton at the university which is mentioned in other universities only in the 17th century; in Freiburg for the first time in 1609, in Vienna, 1658; and in Strassburg, even as late as 1675.

Around the middle of the 16th century regulations can be noted in the documents of the other South German Universities, according to which "data occasione" dissections were to be carried out. In 1537 it was arranged, for Vienna, that every year a dissection should take place, partly as "anatomia universalis," partly as "anatomia particularis"[18] Since 1573 it was also the custom in Freiburg to demonstrate a "corporis humani dissectio eiusque ocularis demonstratio" as often as was possible.[19] After the reform of the Heidelberg university in 1558 not only were the bodies of executed criminals given to anatomical education, but also—with the permission of the relatives—the corpses of other people who suffered and died from unknown diseases.[20] Although the main motive for this surprising definition is to be found in the need for corpses, for the anatomical instructions, one finds here already pathologico-anatomical trends of thinking.

Numerous laments, by students and professors in the 16th and 17th centuries, indicate that all these orders concerning anatomical dissection were often only on paper, that there was a lack of corpses, and that one often had to go back to animal dissection. Characteristic of these situations are the reports from Ingolstadt, where anatomical dissections were apparently a constant stumbling-block. Even in the first half of the 17th century a tendency was noticed within the medical faculty to limit human dissection—contrary to the general need—and even to replace it completely by animal dissections. In 1648 the Elector wrote to the university that it was improper to perform dissections in the presence of students of other faculties. Anatomical demonstrations were not to be performed too often, but only as a pressing need and never without the knowledge of the senate.[21] The decision of the senate, concerning this document, provided for one dissection per year, but this promise was not always kept; for in the 20 years from 1634 to 1653 only six dissections took place. Therefore, the medical students countered with the petition to have a dissection at least once a year. "Autopsy" was not to be omitted, and physicians did not want to be worse off than lawyers, who had the advantage of looking at their corpus juris daily.[22] The improvement of the conditions of anatomical education in Ingolstadt is partly due to this petition.

The remarkable conception "autopsy" which appeared in the curriculum of several faculties for the first time in the middle of the 16th century, is characteristic of the empirical thought which had slowly made its way into medical education. In the beginning only slightly recognizable, it completely overcame the old forms and concepts in the 18th century. Through autopsy the student was to get to know animals, plants, and minerals around the university town, with his own eyes he was to see the illnesses, when the Professor took him along on visits into the homes, hospitals, or the leper hospital. Statutory regulations concerning hospital visits were nothing strange at the time; they had been handed down by

[17] Prantl, Vol. I, p. 317.

[18] R. Kink, Geschichte der kaiserlichen Universitaet zu Wien,' **2**:350. Wien, 1854.

[19] Nauck, p. 85.

[20] Stuebler, Heidelberg, p. 38.

[21] Prantl, Vol. I, p. 429.

[22] Prantl, Vol. I, p. 493.

several universities—not only from the South German area—but also from Leipzig, Erfurt, Koeln, Wittenberg, and others. In his *History of Medical Education* Puschmann already points out that the physician in the 15th and 16th centuries had experienced a certain practical education at the sick bed, but—so he writes—"this practical education in the treatment of the sick was beyond the duty with which the university was concerned."[23]

Several archival discoveries contradict this widespread opinion. They prove that the faculty had also anchored—to use a modern concept—the clinical visit in its regulations. In the statutes of Vienna of 1389 a notice can be found according to which one could only obtain a degree if one could prove to have passed a 1-year practical education—"ad minus visitare debeat infirmos in practica medicinae ad spatium unius anni cum doctore facultatis eiusdem," it says.[24] That sentence has been taken into the faculty regulations in Freiburg. One finds it also in the statutes of Basle. In Heidelberg, those students were taken along for visits who were "honorable and good and anxious to go" and "on their own desire."[25] Clinical education was therefore not obligatory. As much as these regulations can be taken seriously they are evidence that medical education of the 15th and 16th centuries at the South German Universities was not wholly based on a scholastic method, but also had an empirical-practical side.

If we want to draw a picture of medical education at South German Universities during the 15th and 16th centuries, we encounter at first the familiar school-tradition of Arabian literature. Later than in Paris, classical tendencies find entrance into medicine at the South German Universities, and the Arabian authorities, dominant in the 15th century and the first half of the 16th century, make room for classic-Greek authors. Around the middle of the 16th century, however, this process is going on at all universities. Timid beginnings to make the lecture actual through "Neoterici"—through contemporary authors—remain usually in their preliminary stages; only during the 17th century are they successful. Anatomical education experiences a great rise through the recommendation of human dissection in the second half of the 16th century—except for occasional set-backs. Statutory regulations of all universities further prove that then too, the practical education of the medical student was given consideration. Although scholasticism still held its place in the 16th century at the South German Universities—Heidelberg, Freiburg, Tuebingen—the signs of a new, empirical-rational thinking, which led beyond the old forms of education, are not to be overlooked.

The only exception to the uniform picture of medical education is the University of Ingolstadt, which, in the second half of the 16th century turned again toward Arabian authors and clung to them far into the 17th century. Measured in its time —not measured from our standpoint—Ingolstadt had to be looked upon for centuries as conservative, almost backward. The saying that Tuebingen is the lateborn daughter of scholasticism is, for medicine, more appropriate for Ingolstadt. Only in the middle of the 18th century did the faculty open its gates to the new thinking with a complete reform of medical education, which other South German Universities had done considerably earlier; only at that time—according to Prantl—had, in Ingolstadt, too, "scholasticism, still softly creeping along, to make room for empirical research and rationalism."[26]

[23] Puschmann, p. 213.

[24] Die aelteren Statuten der Wiener medizinischen Fakultaet, gesammelt von einer Fakultaets-Kommission, pp. 54/55. Wien, 1847.

[25] Stuebler, Heidelberg, p. 37.

[26] Prantl, Vol. I, p. 548.

Patterns of Influence: Medical School Faculty Members and the Values and Specialty Interests of Medical Students*

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INTRODUCTION

There has been, in recent years, a notable growth in the interest shown by medical educators in the role played by medical school faculty members in the process by which medical students learn to become professional physicians.[1] This process involves at least two components: first, accepting and internalizing certain values relevant to the physician's role;[2] second, deciding on a type of medical practice. The Study of Choice of Specialties in Medicine at the University of North Carolina has been primarily concerned, as the title would suggest, with the second of these components. We have, however, collected a sizeable amount of information, both from faculty members and students of eight medical schools, which inciudes data on values and attitudes. The present report intends to throw some additional light on what is known at this time of the nature of the influence—or lack of it—which medical school faculty members exercise on the values and career decisions of their students.

There are two reasons for undertaking this kind of analysis. The first of these is general and theoretical. It is assumed that a medical school (or any professional school, for that matter) constitutes an environment in which students are expected to acquire not only the relevant knowledge and skills, but also a set of characteristic attitudes and

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[1] The following recent studies are of particular relevance: Patricia L. Kendall and Hanan C. Selvin, "Tendencies toward Specialization in Medical Training," in Robert K. Merton *et al.*, *The Student-Physician* (Cambridge, Massachusetts: Harvard University Press, 1957), pp. 153–74; Denise B. Kandel, William Glaser, and Jane Emery, "Changes in Career Plans of Medical Students," 1958, unpublished; Richard Christie and Robert K. Merton, "Procedures for the Sociological Study of the Values Climate of Medical Schools," *Journal of Medical Education*, **33** (October, 1958, Part II), pp. 125–53; William Glaser, "Internship Appointments of Medical Students: A Stage in the Allocation of Personnel within a Profession," 1958, unpublished; Don Cahalan *et al.*, "Career Interests and Expectations of U.S. Medical Students," *Journal of Medical Education*, **32** (August, 1957), pp. 557–63. Some of the questions raised in this report are also discussed by Denise B. Kandel, "The Career Decisions of Medical Students," Ph.D. Dissertation, Columbia University, 1959; and David Caplovitz, "Student-Faculty Relations in Medical School," Ph.D. Dissertation, Columbia University, in progress.

[2] For a stimulating discussion of this process see Robert K. Merton, "Some Preliminaries to a Sociology of Medical Education," in Merton *et al.*, *op. cit.*, particularly pp. 71–79.

values. Since faculty members in professional schools are largely drawn from the profession toward which the students aspire, there are reasons for expecting that faculty members in such schools play an extremely important role in molding the values and career decisions of their students. The second reason is furnished by the medical students themselves. When asked to specify which of several influences had had much or some bearing on their career decisions, 54 per cent of the 2,676 students in our sample —the largest proportion for any single category—mentioned informal faculty influence. Such a widely acknowledged type of influence is worthy of our attention.

We shall approach the problem by raising two questions. First, who are the influential faculty members, and how do they differ from their less influential colleagues? Second, what is the relationship between the medical values and departmental affiliations of faculty members designated as influential, on the one hand, and the medical values and specialty interests of the students so designating them on the other? The answers that we will offer to these questions will necessarily be brief; a number of interesting findings and a great deal of speculation must be omitted from this presentation.

MEASURING FACULTY INFLUENCE

Because it was anticipated that faculty influence might be an important variable in our study, we went at the problem in two ways. First, in a questionnaire sent to all full-time faculty members in the eight schools whose students were studied, teachers were asked to estimate with how many students, during the preceding year, they had discussed the following: students' personal problems, specialty choice, general outlook, and their philosophy of medicine. At the same time, the sample of 2,676 students from these same eight schools were asked to name the faculty members whom they considered to be: (*a*) the best teacher, (*b*) the best doctor, (*c*) the one to whom they would take important problems, (*d*) the one they would ask for advice as to specialty choice, (*e*) the one with whom they had actually talked most about the future, and (*f*) the one who had had the greatest influence on their own views regarding medicine. We have, thus, a two-pronged method for sorting out influential from non-influential faculty members. It happens that the correlation between the two sets of ratings is so high that, for the purposes of this discussion, the indices are interchangeable. We will, therefore, deal only with the second of these methods, that is, the ratings of faculty members by medical students.

THE INFLUENTIALS

Now for the first of our questions: who are the influential faculty members, and how do they differ from their colleagues? As Table 1 makes clear, they differ in a number of respects. Senior faculty members—both in age and rank—are more likely to be mentioned by medical students than are the younger ones and those with lower academic status. Similarly, those who teach full time have the edge over part-time faculty members, and those with heavy teaching loads are more likely to be mentioned than those with light schedules. In short, the more status and prestige a faculty member has and the more he comes into contact with students, the more likely he is to be chosen by them as influential.[3] This is hardly a surprising finding; nor is it surprising to find that faculty members who make personal efforts to recruit promising students into their own fields are more likely to be mentioned as influential than those who do not.

In addition, faculty influence varies with departmental affiliation, as is shown in Table 2. In general, internists are more likely to be designated as influential than are other faculty members, while psychiatrists are least likely to be so designated. This over-all pattern, as far as we have been able to determine thus far, does not change substantially over the 4-year period, except that juniors and seniors are somewhat less likely to name members of basic sciences. Time does not permit us at this point to comment

[3] Cf. Christie and Merton, *op. cit.*, p. 146.

TABLE 1

SELECTED CHARACTERISTICS AND MEAN NUMBER OF STUDENT VOTES RECEIVED BY FACULTY MEMBERS

	Best teacher	One to whom student would take important problems	One to whom student would go for advice as to field	One with whom student has talked about future	Best doctor	Greatest influence on views regarding medicine	N =
Age:							
Under 35	1.4	1.3	1.4	.8	.8	.9	(203)
36–45	2.9	2.7	3.0	1.6	1.9	2.1	(257)
46–55	4.6	4.9	3.6	2.0	3.7	2.4	(83)
55 and over	6.3	3.8	2.9	1.8	3.3	3.7	(58)
Rank:							
Chairman	9.0	5.8	6.4	2.4	6.8	5.8	(87)
Professor	5.1	3.4	2.4	1.3	2.7	2.9	(68)
Associate Professor	2.7	3.8	3.3	2.0	1.4	1.8	(134)
Assistant Professor	1.1	1.6	1.3	1.0	.5	.8	(177)
Instructor	.9	.9	1.3	.9	1.0	.6	(84)
Resident	.1	0.0	.1	0.0	.4	.1	(40)
Average teaching load per week:							
Less than 1 hour	.1	1.4	1.0	.6	.1	.2	(56)
1–3 hours	1.0	1.5	1.2	.6	.6	.5	(115)
4–10 hours	3.2	2.5	2.4	1.6	2.2	2.0	(270)
11–20 hours	4.9	4.2	4.0	1.7	3.6	3.3	(121)
More than 20 hours	5.7	5.0	5.0	3.0	1.0	3.8	(35)
Type of appointment:							
Full-time	3.2	3.0	2.8	1.5	1.8	2.0	(493)
Part-time	1.9	1.3	1.3	1.0	2.6	1.3	(109)

TABLE 2

DEPARTMENTAL AFFILIATION AND MEAN NUMBER OF STUDENT VOTES RECEIVED BY FACULTY MEMBERS

N =	Basic science (182)	Internal medicine (124)	Pathology (44)	Pediatrics (32)	Surgery (88)	Obtetrics-Gynecology (22)	Public health (32)	Psychiatry (35)
Best teacher	5.3	3.5	3.1	2.5	1.2	.6	.9	.1
Faculty member to whom student would take important problems	4.5	3.0	2.3	1.1	1.1	1.7	1.4	1.1
Faculty member student would ask for advice as to specialty choice	3.0	4.6	2.4	1.5	1.3	1.0	1.4	.7
Faculty member to whom student has talked most about the future	2.0	1.9	1.0	.6	.9	1.0	.9	.3
Best doctor	1.1	5.5	.4	1.9	1.5	1.0	.6	.3
Faculty member who has had the greatest influence on student's views regarding medicine	2.2	3.6	1.5	1.4	1.2	.8	.8	.4

on the relative "popularity" of internists and the unpopularity of psychiatrists beyond suggesting that this is related to a rather prevalent pattern of "specialty images" which we are currently examining.[4]

MEDICAL VALUES OF FACULTY MEMBERS

How else do influential faculty members differ from their noninfluential colleagues? Do they, for example, manifest different attitudes toward medical practice which might ultimately be reflected in the attitudes of the students who come into contact with them? In order to get at this sort of information, faculty members were presented with a battery of items covering a number of aspects of medical practice. In each case they were asked whether, in their opinions, medical students placed too much importance, the right amount of importance, or too little importance on the feature in question. The results are to be seen in Table 3.

First, let us examine the general response pattern. Faculty members tended to be more critical than uncritical of their students on a number of points. As they saw things, students placed too little importance on developing warm relationships with patients, were overly concerned that specific medical actions should lead to desired results, and placed too much importance on prestige among their colleagues, on income, and on manageable working hours. Faculty members also felt that students cared too little about making a contribution to knowledge, dealing with problems which require exacting analysis, or increasing their understanding of basic processes. On other matters, most faculty members were somewhat less critical.

Now let us compare faculty members by degree of influence. In order to simplify the discussion, we will compare faculty members with respect to only one of the six criteria mentioned above: i.e., the number of votes received as having had the greatest influence on student views regarding medicine. As Table 3 indicates, influential faculty members are somewhat more critical of medical students on a number of points than are their less influential colleagues. The differences are not, however, very large. Moreover, there appear to be no differences at all with regard to most of the items.

Medical school faculty members, then, have rather strong feelings on the subject of medical and professional values, and they are on the whole rather critical of the values held by medical students. These attitudes appear to be rather widely distributed among faculty members. With respect to medical-professional values, influential faculty members do not differ from their colleagues to any marked degree.

FACULTY AND STUDENT VALUES

Let us turn now to the second set of questions: how important are faculty values and attitudes in shaping those of medical students, and how much influence do faculty members exert on student specialty choice?

One way of answering the first of these questions is as follows. If faculty members can be said to influence the values of their students regarding the physician's role, then we should find that students who name as influential a professor with one set of values should themselves differ from those who name as influential a professor who entertains opposing views. For example, if some faculty members think some aspect of medicine is over-stressed by students, this attitude should be reflected in the attitudes of the students who say they have been influenced by the faculty members in question; i.e., a smaller proportion of these students should stress this feature.

[4] A comparison of departments with respect to all six faculty characteristics yields a rank-order correlation coefficient of .67. When the "best doctor" category is eliminated, owing to the fact that many basic scientists are not M.D.'s, the coefficient becomes .79. This suggests very strongly that the various measures are not independent of one another, and that they are all related to a perceptual pattern among medical students which includes some notion of the relative prestige of various specialties. Moreover, the responses described in this paper are similar to the prestige rankings of various specialties by medical students as reported by R. K. Merton *et al.*, "Studies in the Sociology of Medical Education," *Journal of Medical Education*, 31 (August, 1956), pp. 552–65; as well as Kandel *et al.*, *op. cit.*

TABLE 3

FACULTY MEMBERS, BY DEGREE OF INFLUENCE, AND OPINIONS REGARDING STUDENT ATTITUDES TOWARD MEDICINE

MEDICAL STUDENTS ATTRIBUTE TOO MUCH, THE RIGHT AMOUNT, OR TOO LITTLE IMPORTANCE TO:		No. student votes received as teacher who has most influenced student views regarding medicine		
	N =	None (400)	1-5 (158)	6 or more (45)
Developing warm personal relationships with patients	Too much	8%	6%	16%
	Right amount	42	41	36
	Too little	50	51	47
Having a practice which is not exceedingly demanding physically	Too much	30	36	31
	Right amount	54	52	58
	Too little	14	10	7
Having the greatest scope possible for independent action	Too much	18	23	31
	Right amount	52	50	42
	Too little	27	27	25
Engaging in a wide range of activities	Too much	15	20	20
	Right amount	44	44	47
	Too little	37	34	29
Being virtually certain that specific medical actions will lead to the desired results	Too much	55	50	47
	Right amount	33	36	36
	Too little	9	10	13
Having prestige among colleagues in the medical profession	Too much	41	39	33
	Right amount	51	56	49
	Too little	6	4	16
Being able to simplify work to a degree which is easily manageable	Too much	17	27	31
	Right amount	41	40	33
	Too little	39	33	33
Being in a position to make a contribution to knowledge	Too much	3	2	2
	Right amount	25	25	22
	Too little	70	72	73
Having working hours which are not extremely long	Too much	37	40	51
	Right amount	53	51	42
	Too little	8	8	4
Having to use a very high level of abilities and skills	Too much	5	6	9
	Right amount	56	58	49
	Too little	35	34	38
Having the chance to help people	Too much	3	4	2
	Right amount	63	69	62
	Too little	32	26	33
Having the chance to increase continually understanding of basic processes	Too much	2	1	2
	Right amount	22	22	20
	Too little	74	77	76
Having no serious consequences resulting from mistakes	Too much	12	9	4
	Right amount	61	66	62
	Too little	23	23	29
Dealing with problems which require exacting analysis	Too much	7	7	7
	Right amount	45	44	29
	Too little	45	47	62
Reaching a yearly income of at least $15,000 ten years after leaving medical school	Too much	46	44	53
	Right amount	50	54	42
	Too little	1	0	2

This is not, however, what we find, as the data in Table 4 make clear. For example, of the students who named as influential a faculty member who felt that students were too *much* concerned with personal relationships with patients, 62 per cent considered this an indispensable or extremely important job feature. Of those who designated a faculty member who felt that students cared too *little* about personal relationships with patients, 59 per cent considered this an indispensable or extremely important job feature. This absence of differences holds for ten of the fifteen medical features involved. Where differences do occur, they are either not very large or statistically significant.

Not only are there no important differences among students who named as influential faculty members with differing views; there are also no differences between those who named a faculty member and those who did not. This is shown in Table 5. In other words, those students whose contacts with faculty members have been so slight that they are unable to name one as having exercised a strong influence on their views regarding medicine are no different from those who say they have been influenced.

We have thus a rather curious set of findings. First, influential and noninfluential faculty members do not differ very much regarding medical values. Second, faculty attitudes do not appear to rub off on students to any marked degree, even among those students who say they have been influenced by members of the faculty.[5]

[5] The general absence of measurable faculty influence on comparable student values is also reported by David Caplovitz, "Value Orientations and Faculty Members," paper delivered at the meetings of the American Sociological Society, August, 1957; and by Christie and Merton, *op. cit.*, pp. 143–47.

TABLE 4

STATEMENTS BY FACULTY MEMBERS ABOUT STUDENT MEDICAL VALUES

Proportions of students naming those professors as influential who hold these values to be personally indispensable or extremely important

	Too much	About right amount	Too little
Developing warm personal relationships with patients	62 (200)	62 (336)	59 (499)*
Having the chance to help people	86 (21)	76 (768)	72 (246)
Having a practice which is not exceedingly demanding physically	17 (372)	14 (577)	16 (70)
Being able to simplify work to a degree which is easily manageable	19 (324)	20 (320)	22 (392)
Having working hours which are not extremely long	8 (505)	6 (421)	7 (109)
Having the greatest scope possible for independent action	54 (352)	52 (392)	52 (292)
Engaging in a wide range of activities	33 (276)	38 (446)	32 (301)
Reaching a yearly income of at least $15,000 ten years after leaving medical school	22 (505)	22 (491)	5 (38)
Having prestige among colleagues in the medical profession	39 (416)	31 (469)	31 (149)
Being in a position to make a contribution to knowledge	9 (11)	32 (301)	35 (724)
Being virtually certain that specific medical actions will lead to the desired results	51 (489)	51 (329)	64 (201)
Having the chance to increase continually understanding of basic processes	77 (13)	61 (208)	65 (815)
Having no serious consequences resulting from mistakes	22 (77)	35 (605)	40 (340)
Dealing with problems which require exacting analysis	23 (70	24 (334)	24 (630)
Having to use a very high level of abilities and skills	42 (81)	44 (575)	46 (363)

* Numbers in parentheses represent the N on which the corresponding percentage is based.

FACULTY INFLUENCE AND SPECIALTY CHOICE

If the findings just reported present a rather disappointing picture of the faculty-student relationship, it should be kept in mind that the time sample involved in our study may simply not be long enough: i.e., it is possible that faculty attitudes do influence student attitudes, but that for various reasons this does not become apparent until the internship or residency or even later. We are at the present time studying practicing physicians in order to pursue this matter further.

However, while students are not under very great pressure to change their views concerning medicine, they are under pressure with respect to their postgraduate careers. A decision must be made, ordinarily before graduation, at least as to what kind of internship one should seek. Students are aware that they face this decision, and by the time they become seniors most of them have given a great deal of thought to the problem, and have spent a great deal of time discussing it with their professors and fellow-students.[6] Here then, we have a situation which differs from the one involving values.

Now for the question: do students tend to be interested in those medical specialties which their influential professors teach? In this case we shall call influential those faculty members to whom students say they would go for advice as to specialty choice. The first set of results is shown in Table 6. The most striking feature here is the wide variation from one department to another, which, incidentally, remains essentially unchanged when year at school is held constant. Fifty-three per cent of the students who designated a psychiatrist as most influential were themselves interested in psychiatry, while only 9 per cent of those who named a pathologist intended to enter pathology. This would *suggest* that psychiatrists have greater personal "pulling power" than do pathologists in recruiting students, but this matter will be clarified more fully in a moment.

[6] For further discussion of this point see Kendall and Selvin, *op. cit.*, pp. 170–74.

TABLE 5

MEDICAL VALUES OF STUDENTS NAMING A FACULTY MEMBER AS HAVING INFLUENCED THEIR VIEWS REGARDING MEDICINE AND VALUES OF THOSE NOT NAMING A FACULTY MEMBER

Per cent checking as indispensable or extremely important:	N =	Gave name (1035)	Did not name (1641)
Developing warm personal relationships with patients		61	55
Having the chance to help people		75	62
Having a practice which is not exceedingly demanding physically		15	16
Being able to simplify work to a degree which is easily manageable		20	21
Having working hours which are not extremely long		7	12
Having the greatest scope possible for independent action		53	51
Engaging in a wide range of activities		35	34
Reaching a yearly income of at least $15,000 ten years after leaving medical school		21	22
Having prestige among colleagues in the medical profession		38	34
Being in a position to make a contribution to knowledge		34	30
Being virtually certain that specific medical actions will lead to the desired results		54	51
Having the chance to increase continually understanding of basic processes		64	60
Having no serious consequences resulting from mistakes		36	36
Dealing with problems which require exacting analysis		24	26
Having to use a very high level of abilities and skills		45	42

Before doing so, let us consider three possible extraneous sources of error whereby this relationship might have been affected. Two of these would tend to play down the role of faculty influence, and the third would tend to exaggerate it. First of all, there is the possibility that the student might have been advised *not* to enter the field of the influential faculty member. We have no way of assessing the importance of this factor. Second, there is the likelihood that a student's specialty choice is limited by his financial and other commitments. For example, a student might want to become a surgeon but is forced to enter general practice because of his age or lack of financial resources, or because he has a fellowship which requires him to practice general medicine in a rural area.[7] When students choosing general practice are omitted, the relationship between faculty specialty and student choice is materially improved.

The third possible source of error stems from the perennial problem of time-order. Do faculty members influence students, or does a student seek out a teacher after he has already decided on his specialty? Only a panel analysis could really answer this question satisfactorily, but we can make a stab at an answer by reasoning as follows. If medical students had already made their specialty choices before going to a faculty member for advice, they should be less likely to say that their specialty choices had been very much affected by informal faculty influence. If we control, therefore, by this question, we should not only get a more reliable picture, but we can also see whether some specialty choices are more likely than others to have been influenced by faculty members. This is shown in the second portion of Table 6. It is quite clear that certain specialty choices, notably psychiatry and surgery, owe less to faculty influence than do pathology and obstetrics. In other words, many of the students choosing the first two specialties had possibly had a long-standing interest in the fields in question, whereas those interested in the last two were possibly more open to influence. Table 6 suggests a hypothesis which deserves further testing: faculty influence on specialty choice is greatest in the case of specialties which are little known before the student enters medical school.

TABLE 6

DEPARTMENTAL AFFILIATIONS OF INFLUENTIAL FACULTY MEMBERS AND STUDENT SPECIALTY CHOICE

DEPARTMENTAL AFFILIATIONS OF FACULTY MEMBERS NAMED AS INFLUENTIAL	PERCENTAGE OF STUDENTS CHOOSING SAME DEPARTMENT AS THAT OF FACULTY MEMBER				
		Student assessment of degree of informal faculty influence			
	All students	Much	Some	None	Index of net influence*
Internal Medicine	27 (681)	39 (143)	34 (274)	14 (263)*	.577
Obstetrics/Gynecology	26 (80)	50 (16)	30 (33)	19 (21)	.759
Pathology	9 (137)	32 (19)	8 (50)	4 (55)	.857
Pediatrics	31 (58)	50 (14)	29 (21)	24 (21)	.908
Psychiatry	53 (75)	53 (15)	63 (35)	46 (22)	.936
Surgery	38 (265)	48 (69)	34 (101)	36 (84)	.707

* The "index of net influence" is computed by the Yule Coefficient of Association in which faculty departmental affiliation and student specialty choice constitute the dichotomized variables, and $A = ad - bc/ad + bc$.

Let us now return to the question of what, a moment ago, was termed "pulling power." It was suggested that psychiatrists are considerably more successful than pa-

[7] For evidence on this point see R. E. Coker *et al.*, "The Medical Student, Specialization, and General Practice," paper delivered at the meeting of the Medical Society of North Carolina, May, 1959. See also Glaser and Emery, "Career Plans of Western Reserve Medical Students," BASR, Columbia University (February, 1958), pp. 17–24 ff.; and Mary A. Monk and Milton Terris, "Factors in Student Choice of General or Specialty Practice," *New England Journal of Medicine*, **255** (December, 1956), pp. 1135–40.

thologists in recruiting students for their respective fields. We then saw that this apparent difference was due to the greater proportion of psychiatry-oriented students who had probably already made their choice. In other words, pathologists may not be as noninfluential as they at first appear to be. In order to underscore this point, let us examine the following propositions. Some medical specialties are not only fairly widely known, but some have more general prestige than others. In the case of widely known and high-prestige specialties, faculty influence as such should be a less critical factor in student specialty choice, since other kinds of influence are at work: the opinions and attitudes of family, friends, and fellow students. However, when these other influences are absent, then we should expect to find that faculty influence is very important in recruiting students into little-known or little-esteemed fields.

In order to test this, it is not enough to compare the varying proportions of students who choose the fields of the professors whom they have designated as influential. Such a comparison fails to compensate for the head start that some specialties (internal medicine, for example) have over others (pathology and psychiatry) in the matter of recruiting students. Hence, it is more appropriate to compare the proportion of students who plan to enter the fields of their chosen professors with the proportion who plan to enter the same field but who have chosen professors from other specialties. This effect will be called "net influence." The results of such a comparison, which are shown in Table 6, reveal a different and very interesting picture. Thus, far from being near the bottom with respect to "net influence," pathology now ranks higher than obstetrics, surgery, and internal medicine.[8]

In summing up this portion of the report, we have found that specialty choice is influenced by faculty members, and that the degree of that influence varies among the various specialties. Moreover, a somewhat refined measure of faculty influence yields different results from those first obtained.[9]

SUMMARY AND CONCLUSIONS

This paper has attempted to provide additional information concerning the professionalization process among medical students. We began with a description of some of the differences between influential and noninfluential faculty members and found that they differed only slightly with respect to medical values. Furthermore, the values of medical students appear to be very little influenced by the very faculty members

[8] The apparently total absence of absolute or net influence on the part of public health faculty members involves a set of variables which cannot be dealt with adequately in this paper. For a discussion see K. W. Back *et al.*, "Public Health as a Career of Medicine; Secondary Choice within a Profession," *American Sociological Review*, 23 (October, 1958), pp. 533–41; and R. E. Coker *et al.*, "Public Health as Viewed by the Medical Student," *American Journal of Public Health*, 49 (May, 1959), pp. 601–9.

[9] The notions underlying the Index of Net Influence deserve some further discussion. This can best be done by borrowing from business terminology. Everything else being equal, advertisements for products or brands which "sell themselves" are obviously less likely to influence consumers than advertisements for products or brands which are little known. This does not mean that the latter type influences *more* consumers than the former; rather, it plays a more important role in the decision on the part of those exposed to the advertisement to buy the product or brand in question. In the case of medical specialties, internal medicine can be said to be one which "sells itself," which is to say that it enjoys high prestige among physicians—the internist being regarded as the doctor's doctor—and hence does not depend as much upon the recruitment efforts of internists to attract students as do other fields. Put still another way, an internist has to work less hard than a pathologist or a public health physician to recruit students. The Index of Net Influence is designed to reflect this situation by rewarding those whose recruitment tasks are presumably more difficult.

If we consider the case of psychiatry, a further refinement in the Index suggests itself. We saw earlier that a large proportion of psychiatry-oriented students had apparently made their career decisions without much influence on the part of faculty members. This, to a lesser degree, is also true of those interested in surgery. It would be an easy matter to control for these cases and thus arrive at an adjusted index which would be even more useful in assessing faculty influence.

The logical model of the foregoing remarks is essentially the same as that already employed by others in a slightly different connection. See Carl I. Hovland, Arthur A. Lumsdaine, and Fred D. Sheffield, *Experiments on Mass Communication*, Princeton: Princeton University Press, 1949, pp. 284–92; and Hans Zeisel, *Say It with Figures*, New York: Harper, 4th Edition, pp. 8–16.

whom they named as having influenced them, and there are no differences between these students and those who did not name an influential faculty member. On the other hand, there are varying degrees of relationship between the departmental affiliations of influential faculty members and the specialties chosen by those students who name them.

This report did not deal with at least two important variables: the role of peer-group influence, and differences among medical schools. Their significance is recognized and will be introduced in later reports. In addition, it is hoped to validate some of our present hunches with the help of some recently collected data dealing with practicing physicians. At the present time, our major conclusion is that faculty members exercise some influence on their students, that the influence is observable in the area of specialty choice, but is virtually nonexistent in the area of professional values.

A Course in Human Development in the First Year of Medicine*

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Some years ago, the basic philosophy of education at the University of Florida was expressed as follows: "The practice of medicine is essentially a social institution . . . since the professional man deals with people in his day-to-day activities, it is advantageous to emphasize . . . the understanding of people, why they behave as they do and why they do what they do," and "emphasis will be on the training of the individual mind particularly in the use of the scientific method of thinking" (3).

In furtherance of these concepts a number of programs have been introduced into the classical medical curriculum. One such course is entitled "Introduction to Medicine." This is a 115-hour course, conducted during the first year of the medical curriculum, through the joint efforts of three colleges and several departments. It is the purpose of this paper to give an overview of the course to show how it pursues the humanistic goals of the College of Medicine.

PHILOSOPHY AND PURPOSES

The present course was designed through the cooperation of physicians in the Departments of Medicine, Psychiatry, and Pediatrics, two psychologists from the College of Education, the Health Center statistician and a geneticist from the College of Arts and Sciences. This group of people, from diverse backgrounds, combined to organize a program which would convey to the medical student the following concepts:

1. An integrated theory of behavior, created out of a background of reading, lectures, discussion, and laboratory experiences in the study of an individual child.
2. The skill to use the scientific method in the study of human behavior and development.
3. An understanding of the application of such knowledge and skill in the practice of general medicine.
4. An awareness of his own characteristics to the point that he is prepared to probe these more deeply in the later years.

At the same time the staff agreed that certain bodies of knowledge must be conveyed to the students. These were: (*a*) Statistics, (*b*) Genetics, (*c*) Physical growth and development, and (*d*) Psychological growth and development.

While the particular didactic material and bibliographic references have been modified throughout the 3-year history of the course, both the purposes and general procedures have remained the same.

As the faculty reviewed previous literature (prior to 1956 when our planning began) we found that little attention had been paid to the problem of the scientific judgment of students about human behavior. Johnson (5) used several observa-

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tion experiences, one of hand radiographs and another of the Ames Trapezoidal window, but no study of human beings; James (4) used radiographs. In a psychiatry course (2) home visits were used, but not with the over-all goals of this course.

In distinction to these approaches, we believe it important that medical students have laboratory experiences through direct observation of school children in their natural setting. We believe that a laboratory in connection with a course in human growth and development should be one in which the student could actually study the behavior of the whole person, in the same way that those in the behavioral sciences do. We felt that the laboratory specimen should be the normal child, behaving in a normal setting. We wished this to be an emotional experience, yet one without the problem of personal involvement in the destiny of these children and removed from the anxiety of the doctor-patient relationship. We also felt that this non-participation would encourage objectivity in observation and analysis. We believed that an interdisciplinary approach based upon laboratory experience would teach the student not only the facts of behavior but an appreciation of the human frailties of the observer, the problems of interpretation of behavior, and the need for objectivity and acuity in observation beyond what he had previously experienced and was experiencing in laboratory science courses. We believed, and our experience has confirmed, that training in observation of cells or chemical substances does not carry over into the observation of behavior. The nature of the personal dynamics of the observer intervenes in the latter case far more drastically than in the former.

Second, we felt it important that medical students be placed into situations which would be essentially nondirective, where they would be on their own, to think out answers for themselves. The construction of the course, given below, will demonstrate how we attempted to implement this.

CONSTRUCTION OF COURSE

While several of the procedures used in this course have their counterparts in many other courses, the total organization, the configuration of these experiences along a nondirective-directive continuum, and a laboratory-lecture continuum, with the coordination of various disciplines within a time sequence, makes this course a departure from the usual. In the second semester, the students were placed in the position of having to develop and present in writing their own personal theories of personality by the 25th week. This forced formulation requirement was designed to allow the anxiety and tension which were built up during the early nondirective period to come to a head and be resolved. The students arrived at a tentative formulation of personality development. There then followed a series of lecture–role-playing–Discussion sessions (weeks 27–32). In these sessions, the students' concerns about personality theory were changed to anxiety about application in medical practice. The pivotal point in this shift of the focus of concern was the theory presentation session. By the end of the course, the students had accepted the concept that knowledge of personality was useful to the physician, but were now concerned with the methods of using this knowledge. This left them psychologically ready for the next step—learning interview techniques in the second year. The order and combination of experiences were thus a highly important factor in this course. Chart 1 and Tables 1 and 2 present, along a time line, the various combinations of experiences, each of which will be described separately. Analyses of Tables 1 and 2 show that statistics, genetics, and physical growth were essentially straightforward, factual presentations. Personality theory and individual behavior were approached from the minimally directive and nondirective end of the line, with scanning observations of growth, intensive observations of the individual, seminars, and forced formulations by all class members of their own

conclusion about the child observed (week 25) and their own theories of personality (week 26) before any lectures. Even in the lecture sessions, the majority of the time was spent in individualization through role-playing, class discussion, and seminars.

The remainder of this paper will describe various parts of the course.

OBSERVATION OF GROWTH AND DEVELOPMENT

The P. K. Yonge Laboratory School, a kindergarten through high school institution, cooperated extensively in providing facilities and arrangements for observations. All observations in the kindergarten and elementary school were made from specially built observation booths which allowed the students to gather data without the awareness of the children being observed. In the secondary school, observations were made in the classroom. Since this school is used extensively in teacher education, the high school pupils are accustomed to the presence of observers and, for the most part, ignore them.

The first portion of the observation was a "scanning" type of operation designed to enable the class to see both the patterns of development which are age-related and the degree of individual variability around the norm. It occurred in the 5th–8th week of the first semester.

Two observer teams of four or five students each were assigned to each of various grade levels at the school. While one team of observers watched the children, another gathered height, weight, sex, and age data on the class from the school nurse's records. In the second observation period, the teams were reversed. In this way, the teams in the same grade could check each other's work.

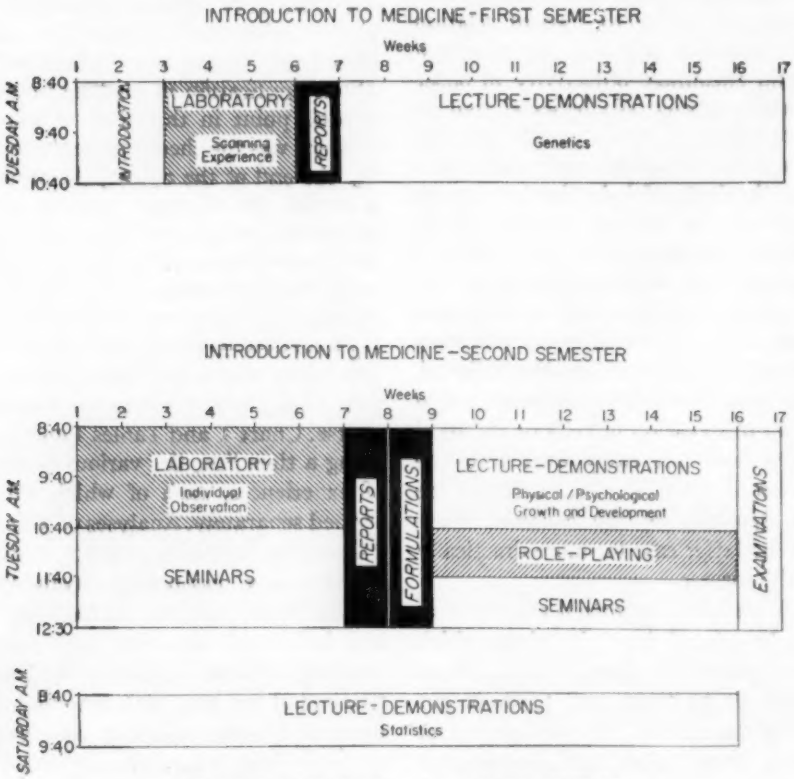

CHART 1.—Distribution of experiences, 1959–60

TABLE 1

Distribution of Experiences

Fall Semester
(2 hours a week)

Week No.	Content area	Type of experience and time in minutes			
		Lect.-Dem.	Lab.	Stud. Reports	Seminar
1	Introduction				
2	Statistics	120			
3	Statistics	120			
4	Statistics	120			
5	Observation of growth and develop.	60	60		
6	Observation of growth and develop.		120		
7	Observation of growth and develop.		120		
8	Synthesis of observation			120	
9	Statistics	120			
10	Neurologic development	120			
11	Statistics	120			
12	Metabolic development	120			
13	Statistics	120			
14	Endocrine development	120			
15	Review seminars				120
16	Review seminars				120
17	Examination				

TABLE 2

Distribution of Experiences

Spring Semester
(5 hours a week)

Week No.	Content area*	Type of experience and time in minutes					
		Lect.	Lab.	Stud. Report	Seminar	Role-playing	Class disc.
18	Introduction and case assignment	60	30			20	90
	Individual behavior and personality:						
19	Observation		120		120		
20	Observation		120		120		
21	Observation		120		120		
22	Observation		120		120		
23	Observation		120		120		
24	Observation		120		120		
25	Case reports			180			60
26	Personality theory			120			120
	Personality development:						
27	Infancy	60			90	15	60
28	Early childhood	60			90	15	60
29	Late childhood	60			90	15	60
30	Adolescence	60			90	15	60
31	Young adulthood	60			90	15	60
32	Middle and old age	60			90	15	60
33	Review seminars				240		
34	Examination						

* Genetics sessions, 1 hour a week, lecture demonstration.

Classroom observation was of the whole class, with the focus on seeing the individual variability present on the following variables: Secondary sexual characteristics (where appropriate), body build, coordination, degree of activity. The data were recorded in the form of check sheets which lent themselves to statistical manipulation.

The synthesis of observation.—The synthesis of observation (week 8) was in terms of charts of changes in height and weight with age and the relationships between the various variables and age and sex. Each observer team made an oral presentation to the whole class, followed by class discussion as to the meaning of the data to the physician.

OBSERVATION OF INDIVIDUAL BEHAVIOR

The second set of observations were a series of six 90-minute observations (weeks 19–25). A team of four or five observers was assigned to study the behavior of an individual pupil. This was recorded in anecdotal form and included not only the pupil's reactions and speech, but also a description of the classroom setting and the behavior of the teacher and other children in relation to the child or adolescent. The concept that normal behavior could not be understood apart from the situation in which it occurs was explicit in the instructions given the students. Directions on how to observe were also in the text, Gordon's *The Teacher as a Guidance Worker*. These observation records were read by the staff members each week and were returned with extensive comments and suggestions. Most suggestions were related to enabling the students to become more objective and less opinionated, the necessity to delineate facts from inferences, and aiding the student to become aware of gaps in his data. Since the same pupil was observed by several students, comments relative to one another's records could be made so that the student could check on his own ability.

All observations were made by teams of observers, so that students could discover, in the process of checking inter-observer reliability, the problem of just "seeing" the same things, and could explore in discussions the meaning of their differences and techniques for improving their skill. A second reason for team observation was to force the students to face the problem that, even though they had learned to "see" alike, their interpretations of the meaning of behavior were still largely governed by their individual theories of behavior and by their own emotional predispositions. Thus, the process of observing created conflict situations and unsolved problems which could be dealt with in seminar and reading.

Case reports.—Mere observation without inference would not enable students to become more scientific in their judgments nor enable them to make the kinds of generalizations physicians need to make. The case report was the next step. The observer teams each presented (week 25) an oral case report, 15 minutes in length, supplemented by a written report. The work was to be done as a committee, so that differences of opinions had to be faced and resolved. The framework for analysis used by each group has changed as the course has developed, but, in essence, each group has first abstracted those behaviors which were characteristic of the child in his relation to teacher, to class work, to fellow pupils. Inferences were then made concerning the present personality and motives of the child. As a final step, each group attempted to estimate what methods would be successful in aiding the child to modify those aspects of his behavior which the group felt needed modification. It was at this point that the students could visualize the child as "patient" and themselves as "physician."

SEMINARS AND INDIVIDUAL PAPERS

As a way of enabling students to integrate their readings on personality and development, their observations of children and their own personal view of human behavior, seminars, each 2 hours long, were scheduled weekly either immediately preceding or following the observation period. Shorter seminars followed each of the lec-

ture sessions. Ten students were assigned to each seminar group. Each seminar group was composed of two observer teams, studying two different children at the same grade level. Each student, by the 25th week, had to submit an abstract of a paper on his theory of personality, and, the following week, had to have a written paper ready. Six abstracts were selected, and these six students presented their theories to the class at a "paper-reading" session modeled on the pattern of a scientific meeting. In preparation for this, seminar time could be used by the group to discuss the theories found in the text (Hall and Lindsey, *Theories of Personality*) or to discuss their observations, or in any fashion worked out by the seminar group; in fact, each of the five seminar groups developed its own patterns of behavior, depending upon the personality of the leader and the structure of the group. In each group, since it was small, the students had a chance to discuss and evaluate what was happening to them in the course, as well as to study the content. This allowed us to work toward our purpose of personal awareness on the part of the medical student of his own dynamics.

Both the seminars and the individual papers were nondirective experiences. The students were expected to create their own organization. The seminar leader acted in a supportive role but was not supposed to "teach." The point was to require the students to think for themselves and to evolve their own personal syntheses of theory before they were exposed to an organized presentation. Each student had to begin with himself, rather than merely accepting a pat "school solution." Further, he could use his observations, readings, and the thinking of his peers in a unique combination to evolve his theory.

Another aspect of the seminar was the interdisciplinary nature of the staff. Seminars were led by the authors and by Dr. William Stead, Department of Medicine; Dr. Dorothy Laird, College of Education; and Dr. Robert Glen, Department of Psychiatry.

LECTURE DEMONSTRATIONS

The statistics material was presented by Dr. Robert Hoffman, the Health Center statistician; the genetics sessions were taught by Dr. Henry Wallbrun of the Biology Department of the College of Arts and Science. Dr. Richard Smith, Head of the Department of Pediatrics, conducted the Physical Growth sessions. The text for the latter was Watson and Lowrey: *Growth and Development of Children*. The personality development lectures (weeks 27–32) in 1958 were given by Dr. Regan. These lectures were necessarily somewhat in the nature of broad overviews of major concepts rather than heavily laden with details of facts. The emphasis was not only on the personality characteristics formed at different developmental periods but also on the clinical applications of this information. This series of lectures was designed, along with the role-playing and discussion held with them, to "cap" the course, to synthesize all the previous experiences into the framework of medical practice.

ROLE-PLAYING SESSIONS

Perhaps one of the most unique and intriguing aspects of the course were the role-playing sessions which followed each of Dr. Regan's lectures. These sessions, led by Dr. Gordon, were designed to accomplish three purposes: (*a*) to increase and reinforce, through a concrete emotional experience, an understanding of the lecture material, (*b*) to demonstrate an application of the lecture material to the practice of medicine, and (*c*) to sensitize the students to their own personalities, both as people and in their roles as physicians.

In each session, a student was assigned to be "doctor," and other students were assigned as "patients." They were given brief background instructions as to the nature of the problem which brought them to the office, some idea of what kind of person they were to be, and the rest was ad libitum. The patient's problem was related to the developmental stage discussed in the

lecture. For example, following the lecture on adolescence, the patient was an adolescent with acne.

Class discussion followed the role-playing and often took the form of criticizing the work of the "doctor." Two factors contributed to the students' anxiety about the role of the physician. First, the role that seemed to follow logically from the course work differed from their assumptions about medical practice. Second, the role as played by their peers did not reflect their own conceptions. A usual comment concerned the use of the physician's time. Students were involved throughout these sessions in looking at themselves and facing up to a view of medicine often quite different from their preconceived notions. Feelings of doubt and insecurity were followed up in the seminar sessions, although, for many students, we are sure these have not been resolved. The lecture—role-playing sessions, new in 1958–59, thus served to "tie" the course to medical practice in a way that had been lacking in previous years. In the past, this lack of a "tie" at the end left unresolved feelings of anxiety and hostility.

EVALUATION

During the past 3 years, while changes have been made in the course, we feel that it has worked well. Student evaluations reveal that, while they approach it with resistance, most see its relevance to medicine, many have begun to look at themselves, and virtually all feel that they have learned about human behavior. Analysis of their observation records reveals considerable growth in their ability to observe and record behavior objectively, to separate data from judgments. We have, at the moment, some data on changes in ability to observe that remain to be processed. Movie clips were shown at the beginning and end of each semester, and the students wrote what they observed. Inspection shows much movement toward objective recording, but careful analysis remains to be done.

This year (1958–1959) we attempted to integrate the statistics phase of the Introduction to Medicine sequence by using the statistics being learned in the handling of physical growth data. We thought to make the learning of statistics more functional through this approach. The procedure was found to be too cumbersome and time-consuming and will be redesigned in the future.

In the first 2 years, extensive reading in a wide variety of books was required. This has been curtailed to a bare minimum.

The problems of an interdisciplinary staff have proved to be interesting but by no means insurmountable. There were semantic difficulties and conceptual differences, but these have retreated into the background. Each has learned much from the other. The use of nonmedical personnel has proved to be most successful.

The services of the P. K. Yonge Laboratory School were indispensable to whatever success the observation sessions have had. Both the administration and teachers have offered time and help, and, as a consequence, teachers and medical students have a better understanding of each other which should enable the physician to work more effectively as a member of his community.

The course still has its "rough spots," but the basic design seems sound. We plan to modify but not to alter drastically what has been done. For instance, we plan to add more sociological material and to have the students gather more physical growth data through actually taking part in the normal school health program. One of our next problems is to measure more accurately the effect of this experience on the medical student. We are planning a small research program, using both standard instruments and some newly developed ones to see just what changes, if any, this course is making in the thinking of the medical student. Previous research on senior medical students shows them less accurate in interpersonal prediction after exposure and observation of patients (1). Since we are providing a body of knowledge, a method of analysis, and a theoretical basis for evaluation, we might hope that our fresh-

man medical students would be more accurate. We are also curious as to the varying effect of each of the teaching procedures upon different students and the possible effect of the differences in approach in the seminar upon student learning. This, too, we hope to explore.

SUMMARY

The first-year course in the Introduction to Medicine at the University of Florida College of Medicine has been described. The basic purposes and philosophy have been stated. The unique aspects of the course, including a forced formulation of a theory of personality by each student, observation in laboratory experiences utilizing normal children in a school setting, role-playing as a teaching method—all integrated into an interdisciplinary approach—have been discussed. The unique organization of nondirective experiences has been presented, along with the rationale for this procedure. The course demonstrates a highly useful approach to teaching human development in a college of medicine.

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A Plan for Full Utilization of the Private Hospital Affiliate in Clinical Medicine Instruction

A Pilot Study

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The utilization of the private hospital to assume full responsibility in the clinical training of students warrants consideration. It is felt that by proper planning and organization of the hospital's facilities and personnel a high caliber of instruction will be achieved. The purpose of this paper is to present a pilot study which is devised to accomplish this goal.

In recent years there has been widespread acceptance of the clinical clerkship by medical colleges as the preferred method of instruction in the third and fourth years, even though a high ratio of hospital beds per clerk (5:1) is needed.

The gradual increase in the number of students enrolled in each class since the end of World War II has created a need for additional clinical facilities. Building programs by many medical schools have provided for some of the necessary expansion. However, the continuing demand for training more students as physicians to cope with the explosive increase in our population will require an even greater expansion of our present facilities in the near future. Since expansion into existing hospital facilities is more rapidly accomplished and cheaper than the construction of new units, affiliation with well integrated and well administered private hospitals presents a plausible means of providing for such an increase.

All are familiar with the impact of the various hospital insurance plans on the ward patient census since World War II. The wealth of clinical material traditionally represented by the wards is found now among the private in-patients. Recognizing the problem and the trend, medical schools have or are developing intramural programs utilizing private in-patients for clinical instruction, even though the transition presents many problems. It is hoped that our experience in the use of private patients for clinical teaching since the establishment of the affiliation in 1951 will be of value to those institutions contemplating the use of similar patients for their training programs.

An important aspect of the pilot study is the use of a tutorial system of instruction to allow very close individual attention to the clinical clerks. A discussion of the aim of and need for a tutorial system in the clinical clerkship will be presented in detail. Initiation of the tutorial system required additional half-time salaried instructors. A grant was obtained from a foundation for the salaries of the increased personnel.

ADMINISTRATIVE AND PROFESSIONAL INTERRELATIONSHIPS

The Lankenau Hospital has been affiliated with Jefferson Medical College since 1951 for the teaching of clinical medicine to third-year students. There is no rigid con-

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tractual arrangement, and the only agreement between the two institutions is a "gentleman's agreement." The professional aspects in liaison with both institutions are the responsibility of the program director who was selected originally by Jefferson Medical College and subsequently approved by the Lankenau Hospital. The selection of the teaching personnel for academic appointments is the sole responsibility of the Chairman of the Department of Medicine of Jefferson Medical College. On the other hand, the medical college has no authority in the appointment of personnel for the affiliate's hospital staff. A great deal of flexibility exists, however, allowing an individual needed for the teaching program, who is not a member of the affiliate's staff, to be appointed to the attending staff.

Since its inception one of the authors (A. P. A.) has been in charge of the affiliate's training program. His duties are a combination of teaching, administration, and liaison between the two institutions. He works closely with the hospital administrator in arranging for a multitude of technical details such as housing, meal service, and scheduling of conference space. The organization of the teaching schedule, the nomination of the physicians doing the teaching, and the distribution of all information pertaining to the teaching program are his responsibility in addition to tutoring in the program. All matters pertaining to teaching and teaching personnel are presented to and approved by the chiefs of the two medical services at the Lankenau Hospital and the Chairman of the Department of Medicine of Jefferson Medical College. The program director is responsible to the Chairman of the Department of Medicine and acts as the latter's agent. On the other hand, he also serves as the representative of the affiliate's staff and conveys the various views to and from the Chairman of the Department of Medicine. Therefore, it is imperative that any individual placed in such a position be familiar and compatible with the affiliate's medical staff.

Close contact with the medical college is maintained through one of the authors (R. L. E.) who administers the clerkship programs in the Department of Medicine. He keeps the affiliate's program director fully informed of any changes in the teaching realm and assists in adjusting the medical college's program to the affiliate's needs.

A significant factor in the success of an affiliated program is the cooperation of the hospital administrator. This can be gained by defining the areas of interest and means for settling conflicts in the overlapping areas.

An important part of any such program is the voluntary teaching personnel. Aside from being qualified professionally, they must be willing to expend the time needed to teach. The returns to the staff are the continuous stimulation to keep up with medical knowledge and the enhancing of the professional environment by the academic discipline. Past experience with the staff has been extremely satisfactory. Only rarely are instructors absent without making appropriate arrangements to cover their teaching obligations. One of the reasons for the voluntary staff's interest is that they are relieved of any administrative or technical duties and are able to devote their energies solely to teaching.

Any successful clerkship requires a full complement of interns and residents to avoid the possibility of the clerks being used for service by the hospital. In addition, since these individuals are closest to the clerk group and their interest is a crucial factor in the success of such a plan, the program director fully apprises them of the study's aims and of their role in the program.

Through the years the affiliation has been a harmonious and fruitful one for both the medical college and the affiliate. It is felt that the compatibility of the institutions is the result of a clear understanding by the individuals or groups involved of their responsibilities to the program and the avoidance of conflicts caused by infringement into spheres outside their designated areas.

ORGANIZATION OF THE CLERKSHIP

General information.—The Lankenau Hospital has a capacity of 341 beds, exclusive of bassinets. The attending staff is of the closed type, and a full range of specialists is represented. Approximately 3,000 patients a year are admitted to the medical, neurology, and dermatology services. The clinical material is varied and covers the spectrum of disease necessary for the teaching of clinical clerks.

The teaching staff of the clerkship.—The teaching staff consists of three half-time salaried individuals who each devote approximately 20 hours a week to the program, nine ward class instructors, and a total of 21 physicians, including many from the first two groups, who conduct the specialty rounds.

Patient assignment.—All patients admitted to the medical, neurology, and dermatology services are assigned to the clerks. Each clerk averages three to four new patients a week. During the day the instructors assign the scheduled and nonscheduled admissions prior to or at the time of their arrival; thus the clerks are the first to see and examine the patients. The use of special assignment sheets on which the diagnoses of the previously assigned patients are listed assures the clerks of a diversity in clinical material. A flexible method of patient assignment prevents any of the clerks from receiving a disproportionate number of patients. During the evening hours the house staff notifies the clerk on duty of the arrival of all new patients.

Use of private patients for clinical clerkship teaching.—Approximately 90 per cent of the patients in this study will be private. Use of the private patients for teaching is not limited. In addition to the interrogation and examination of the patients by the clerks blanket consent has been given by the attending staff for the presentation at any conference or examination by any other staff physician of any of their patients without prior notification or permission.

Analysis of our experience since 1951 has revealed excellent cooperation by the private patients, with only rare exceptions offering resistance. The reaction of the clerks to private patients was favorable, and they found no significant disadvantages to working with private patients. They did find historical examination more rewarding and less difficult with private patients.

The authors are convinced that there are no barriers to the successful use of private patients for clinical clerkship training if the attending staff is willing to give wholehearted cooperation to such use.

Clerk's responsibilities.—The clerk is responsible for a complete history and physical examination of all patients within 24 hours of assignment. Rectal examinations are done on all male patients, but pelvic examinations are done only under supervision by a member of the house staff.

At the conclusion of his work-up the clerk lists in logical sequence his differential diagnoses and the studies he deems necessary to confirm his diagnostic impressions. Daily progress notes and close follow-up of the patients are expected. A complete blood count, urinalysis, and stool examination for occult blood are required on all patients. Clerks are permitted to perform diagnostic procedures such as lumbar punctures, thoracenteses, and paracenteses on their patients after having received instruction and under supervision by the house staff. The house staff notifies the clerk and arranges a time convenient to both. If the clerk wishes to become adept at giving intravenous therapy or any other procedure which can be interpreted as service to the hospital he is free to do so on a voluntary basis. If patients require any major operative procedure the clerks are urged to go to the operating room and observe.

Clerks are responsible for the presentation of all the data pertaining to their patients at the various teaching functions. The time alloted to the résumé varies with the conference, and the tutor assists the clerk in the preparation of the material until proficiency is attained.

Clerk's schedule.—The clerk is assigned a total of approximately 35 hours a week

to the hospital exclusive of night and weekend duties. Approximately 11–12 hours are devoted to the scheduled teaching as listed below:

1. Tutorial session: Two hours per week per clerk. During this period the clerk discusses his own patients with his tutor. The first sessions are devoted to the techniques of history-taking and physical examination with increasing emphasis on differential diagnoses and the pathophysiology of disease in the later sessions.
2. Specialty rounds: three 1-hour rounds weekly.
3. Bedside classes: three 1-hour classes weekly.
4. Medical conferences: two 1-hour conferences weekly.
5. Radiology: one conference weekly, 1–1½ hours in duration.

Since the number of patients assigned weekly is between 3 and 4 and approximately 3 hours are required for each new work-up, the clerk has approximately 12 hours per week for reading and making personal rounds.

Suggested reading list.—A suggested reading list divided into various disease categories has been compiled, and a copy is given to each clerk on his first day at the hospital.

Very few clerks have had any experience in the use of journals as a reference source, and it is hoped that this introduction to the current literature will serve as an impetus to explore further into the wealth of knowledge it represents.

METHODS OF EVALUATION

Since the program as conceived is a new experience for the medical college and the affiliate, several methods of evaluation have been developed. An important area of investigation in this regard is the clerks' reaction to the study. Although the tutors will be able to judge the clerks' reactions on a day-by-day basis, their evaluation may be too subjective. Therefore, each student submits a weekly confidential report to the secretary of the program director in which he expresses his opinion of the various conferences and teaching functions and makes other comments of a general nature. By reviewing such comments the teaching group is able to judge the effect on the clerks of the various phases of the program and to rectify any unforeseen difficulties.

To aid in judging the effectiveness of the clerkship, at the end of the 12-week block each clerk is given an oral examination at the Jefferson Medical College Hospital by instructors who are not involved with the clerkship and hence are more likely to be objective in their evaluation. Furthermore, a written examination is given the clerks from all affiliate hospitals and the medical college hospital at the completion of each medical block.

The program director at the Lankenau Hospital, in an attempt to control the pilot study as closely as possible, requested that each group of fifteen students be comprised of 20 per cent from the upper quarter, 20 per cent from the lowest quarter, and 60 per cent from the middle half and that the rankings be anonymous. By comparing the past and present records of the clerks involved in the study, it may be possible to evaluate the effect of the program on their performances.

A further evaluation of the program can be made by comparing the performances of the clerks at the Lankenau Hospital with those of the clerks in the same medical block receiving their training at Jefferson Medical College Hospital and other affiliated hospitals.

The authors realize that objective evaluation of such a program is difficult, since no precise method of measurement exists. They hope that the methods of evaluation mentioned above will provide some index of the program's value.

THE AIM OF AND NEED FOR A TUTORIAL SYSTEM IN THE CLINICAL CLERKSHIP

The objective of any clinical clerkship is to provide the student with an opportunity for learning by working closely with

patients. Teaching by the clinical staff is usually at the bedside, with the exception of a few key lectures. The student is regarded as a graduate student whose responsibility for training lies with himself. Many believe that this method of self-determination plus some instruction is sufficient to guide the student into the proper habits of thought for his present and future education as a physician.

In theory the method is ideal, but in practice there are problems which need to be solved before the ideal is attained. The amount of knowledge comprising modern medicine, the large number of students, and the small number of instructors available for teaching of this wealth of material have forced most medical colleges into the use of a predominantly didactic system of instruction in the 2 preclinical years. The result is that the student enters his third (first clinical) year and assumes a major proportion of the responsibility for his own education with a minimum of experience in a field of study vastly different from that to which he has been exposed.

The advantages of a tutorial system in the third-year clinical clerkship are thus apparent. It provides the guidance needed by the student to adjust to his new educational environment. Close supervision of his work and free discussion with his tutor gradually develop the student's thought processes, give the proper direction to his efforts, and develop proper study habits. The student becomes able to observe the patient as a whole being instead of as a conglomerate of several disease entities. Better students progress more quickly, and slower students have the opportunity to keep up with their group by more intensive instruction on the part of the tutor.

What are the objectives of the initial clerkship on medicine for the third-year clerks? The authors believe that schooling in the "tools of medicine" should receive the major emphasis at this early stage. These "tools" are: (*a*) training in the interrogation of the patient so as to elicit information in a logical sequence, (*b*) the acquisition of the technical skill required for the proper examination of the patient, (*c*) the development of logical reasoning to arrive at a differential diagnosis, and (*d*) the explanation of the findings noted in the first three areas on sound pathophysiologic principles.

If the student can become proficient in these four areas he will remain intellectually flexible and develop the thought processes necessary for self-education in the future. He will have a hard core of patient understanding and thought which remains over the years but is elastic enough for him to adapt easily to future trends. The type of individual instruction needed for this form of learning can be best accomplished under the tutorial system.

SUMMARY

A plan for the private hospital affiliate to assume full responsibility for instruction in clinical medicine to third-year students is presented.

The administrative and professional interrelationships of the affiliation are discussed.

Experience in the use of private patients for clerkship training is presented.

The aim of and need for a tutorial system in the clinical clerkship years is discussed.

Philip Syng Physick (1768–1837)

"The Father of American Surgery"

L. R. C. AGNEW, A.M., M.D.,* AND G. F. SHELDON, A.B.†
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Although "Fathers" are plentiful throughout medical history, the patristic age *par excellence* is the nineteenth century, when most of the medical specialties burgeoned dramatically. Some of our Fathers are worthy of their title; the claims of many, however, are dubious. And while the whole idea of the bestowal of Fatherhood on any given figure is, to say the least, arguable,[1] Fathers are here to stay. Indeed, not only are they here to stay—we have a plethora of parents for our various specialties and even sub-specialties, to say nothing of scores of quaint regional variants. Having said this (with the pious hope that a modicum of planned parenthood will manifest itself in the medical history texts of the future) let us proceed to an examination of one on whom the proud title of "Father of American Surgery" is usually and, we believe, justifiably bestowed—Philip Syng Physick.

EDUCATION IN THE COLONIES

He was born July 7, 1768, of a distinguished Philadelphia family. His maternal grandfather, Philip Syng, America's first great silversmith (one wonders if this craftsman is a Father to those who follow his profession today), fashioned the silver inkstand from which the Declaration of Independence and the Constitution were penned. Young Physick's earliest ambition, indeed, was to be a silversmith, and it is tempting to ascribe his later manual dexterity and aptitude for fashioning new surgical instruments in part, at least, to his grandfather's influence. His father, Edmund, was Keeper of the Great Seal for the Penn family before

FIG. 1.—Lithograph from H. Inman's portrait of Physick (aet. 63).

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[1] Sigerist, for example, has caustically observed that "the very popular hunting for 'Fathers' of every branch of medicine and every treatment is . . . rather foolish; it is unfair not only to the mothers and ancestors but also to the obstetricians and midwives." (Henry E. Sigerist, *A History of Medicine*, p. 13. New York: Oxford University Press, 1951).

the Revolution. The Penn estate, which lay between Philadelphia and Valley Forge, was a potential battlefield during the Revolution; Edmund Physick was fortunate enough to secure from Washington and Howe an agreement that it would remain untouched throughout the hostilities. After the Revolution, Edmund Physick managed the colonial interests of the Penn family in America. Young Philip was influenced strongly—perhaps dominated—by his father in the matter of his future career. Edmund early determined that his son should be a physician and that he should have the best education possible.

Philip was enrolled in Friend's Academy, a distinguished Quaker school administered by the historian Robert Proud. The available school records merely indicate his enrollment and give no hint of his ability. After leaving the Academy, Physick attended the University of Pennsylvania, graduating with the degree of A.B. as valedictorian in 1785. Soon thereafter he began the study of medicine under the preceptorship of Adam Kuhn. Kuhn had studied botany and materia medica under Linnaeus in Sweden and, like so many of the original faculty of the Medical School of the University of Pennsylvania, on his way back to America had stayed long enough in Edinburgh to fulfill the relatively modest requirements for the M.D. degree. He was appointed Professor of Materia Medica and Botany in the Medical School of the College of Philadelphia in 1768, and in 1789 (by which time the College had, of course, been amalgamated with the University of Pennsylvania to form the Medical School of the University of Pennsylvania) he became Professor of the Theory and Practice of Medicine. Physick studied under Kuhn for 3 years, during which period he attended lectures at the old College Medical School and also obtained (in 1788) the degree of M.A. from the University of Pennsylvania.

EXPOSURE TO EUROPE

At this stage (1788) of Physick's career European medicine was justly famed in America and was the goal of all who could afford it. Some years earlier Leyden—and the mighty Boerhaave—had been the favored center, but now London and Edinburgh were all the rage; Edinburgh, however, was Leyden's logical successor, because many of her faculty had studied there.[2] Edinburgh must for long have been in Physick's mind—after all, his preceptor Kuhn had studied there, to say nothing of Benjamin Rush, John Morgan, and William Shippen. However, Edinburgh was not the only medical attraction in Britain. In London there were many great men, and the greatest of them all, John Hunter, was at the peak of his career. It was for London that Physick embarked in November of 1788. His father, who accompanied him, proved of incalculable assistance. As Randolph[3] notes:

> Fortunately for Dr. Physick, his father's connections in London were such, that he was enabled to introduce his son to some of the most learned and polished society, both among the nobility and gentry, of that great metropolis. An intercourse of this kind created for him an influence and gave him opportunities by means of which his cherished views were considerably promoted. Any one who ever encountered Dr. Physick must have been struck with the exceeding dignity and courteousness of his manner. For this, no doubt, he was principally indebted to nature. I am, however, of the opinion that it was in some degree acquired and confirmed by his association with the most elevated society whilst abroad. By means of this same influence Mr. Physick succeeded in securing the consent of Mr. John Hunter, then one of the most celebrated anatomists and surgeons of the age, to receive his son under his immediate care and tuition.

The story has often been told of Physick Senior's meeting with Hunter. When the former inquired what books his son would need, he was ushered peremptorily into the dissecting room and shown the cadavers as

[2] For a brief but excellent account of Leyden's influence on Edinburgh see Douglas Guthrie: The Influence of the Leyden School upon Scottish Medicine. *Medical History*, 3:108–22, 1959.

[3] J. Randolph, *A Memoir on the Life and Character of Philip Syng Physick, M.D.*, pp. 17–18. Philadelphia, 1839.

Hunter remarked brusquely, "These are the books your son will learn under my direction; the others are fit for very little." This pleasing little tale presaged what the next few months held in store for Philip—dissection, experimentation, and a healthy scepticism of what others had written if one's own observations failed to confirm their findings. In a letter (dated March 31, 1789) to his wife, Edmund Physick approvingly commented that Philip was ". . . very usefully employed at Mr. Hunter's, where he passes a great part of his time every day, and certainly has great opportunities of improvement."[4]

Physick rapidly became one of Hunter's favorite pupils. In Hunter's last great work, *A Treatise on the Blood, Inflammation, and Gun-shot Wounds* (published posthumously in 1794) his gratitude for the skillful assistance of young Physick is expressed as follows in a section entitled "Some Unconnected Experiments Respecting the Blood":[5]

> Many of these experiments were repeated, by my desire, by Dr. Physic [*sic*] now of Philadelphia, when he acted as house-surgeon at St. George's Hospital, whose accuracy I could depend upon.

In January of 1790, Physick was appointed House Surgeon to St. George's Hospital, London. This appointment he owed, of course, to the kind lobbying of Hunter on his behalf. This must have been a trying time for the young American, particularly at first, but his natural charm and clinical acumen would speedily assuage ruffled English feelings. At the end of his year's term of office at St. George's Hospital, Hunter ". . . invited him to take up his residence with him, to become an inmate of his house, and to assist him in his professional business; he also held out inducements to him to establish himself permanently in London, and to pursue the practice of his profession in that city."[6] Seldom can a 22-year-old physician have received such an attractive offer, and even more seldom refused it—for that is what Physick did.

The reason for the refusal is not clear; some, for example, believe that Physick felt that London's climate was bad for his health and that his native Philadelphia would be more suitable. But in the matter of fickle weather one would be hard put to say which of these cities should be awarded the palm. Again, prevailing anti-Americanism in England may have annoyed him, and he may have felt that a favored position with Hunter would lead to more, rather than less, criticism of his American background. Another possibility for his refusal of Hunter's offer might be sought in Physick's aversion to vivisection (Hunter, of course, frequently vivisected), for years later (1830) in his final address to his anatomy class Physick so derided the "cruel" practice of vivisection that long afterwards his students remembered his countenance on that occasion. Finally, patriotism itself might have been an important element in his decision.

So much for speculation about his failure to accept Hunter's offer—there is nothing, alas, to be found concerning Physick's own feelings in the matter. We know from his son-in-law Randolph's biography that Physick kept a notebook during his stay in England "in which he recorded such facts and incidents as came under his observation, which he supposed might be of service to him subsequently." Randolph, indeed, had access to this notebook and even cited some extracts from it. The authors of the present article have searched thus far in vain for this manuscript which, if it could be found, would be one of the most fascinating items in late eighteenth-century medical history and might even throw light on the strange parting from Hunter. It was not a sudden parting, however; Physick remained with him until May, 1791, leaving him at that time to pursue studies for the Edinburgh M.D. degree. This degree was granted to him in 1792 for his thesis (warmly dedicated to John Hunter) entitled *De apoplexia*.

[4] This letter is in the possession of the Historical Society of Pennsylvania.

[5] John Hunter, *A Treatise on the Blood, Inflammation, and Gun-shot Wounds*, p. 94. London, 1794.

[6] J. Randolph, *op. cit.*, p. 26.

PHILADELPHIA PRACTICE

Physick returned to Philadelphia in September of 1792. He never saw Hunter again; his beloved mentor died in London on October 16 the following year. Physick's first year of practice in Philadelphia was not encouraging. Indeed, things were so unsuccessful financially that he even instituted a simple prepaid family health insurance plan; for example, for an annual wage of 20 dollars he offered to provide medical care for an entire family. The following year, however, the great yellow fever epidemic of 1793 provided him—and, indeed, the whole medical community—with ample medical practice. This epidemic had a twofold effect on his career: it brought him an extensive medical practice that continued for the rest of his days, and it brought him into personal contact with another great mentor—Benjamin Rush.

During the summer of 1793, more than 15,000 Philadelphians out of a population of 55,000 perished, and some 29,000, including President Washington and Congress, fled the city. A charity hospital, Bush Hill, was hurriedly pressed into service, and Drs. Physick, Cathrall, Annan, and Leib were appointed attending physicians. However, Bush Hill was some distance from Philadelphia, and, since these doctors had patients to attend in the city, they were only able to make hurried visits at relatively infrequent intervals. Conditions eventually deteriorated to the point where Physick was appointed an alderman by Governor Thomas Mifflin and charged with the responsibility of enforcing order at Bush Hill. Eventually two merchants, Stephen Girard and Peter Helm, assumed the management of the hospital and demanded a full-time physician for it. Dr. Jean Déveze, a French surgeon, got the appointment, but Physick and his colleagues disagreed with his conservative treatment of yellow fever and resigned their positions. Physick, therefore, did not play the important role at Bush Hill often credited to him.

During the 1793 epidemic, Physick performed numerous autopsies—a practice he continued throughout his career and incidentally popularized among his medical colleagues. Morbid anatomy was still a young science—the first American text (W. E. Horner's *Pathological Anatomy*) did not appear until 1829—so Physick's popularization of this procedure was an important advance in American medical education. Gradually the public's aversion to autopsies was mitigated, and, by 1813, Physick's nephew, John Syng Dorsey, was able to write that "enlightened medical reason . . . is making a rapid improvement . . . and the importance of dissections begins to be acknowledged amongst all ranks of society. In Europe the surgeon is frequently *requested* to examine dead bodies, and in America *permission* to do so is not often denied."[7]

Throughout the yellow fever outbreak of 1793 Benjamin Rush industriously bled and purged his patients on a heroic scale. However, the death rate continued to rise. Indeed, there seems to have been a positive correlation between Rush's treatment and the increased mortality; or, to put it brutally, Rush's treatment was literally murderous. William Cobbett, the controversial English essayist, was in Philadelphia at this time and later (1797) criticized the Rush regimen on statistical grounds. However, as Shryock puts it, his claim ". . . received small attention from either doctors or laymen. Cobbett was eventually convicted of slander, fined, and practically driven out of town."[8] Physick contracted yellow fever in 1793, and was convinced that bleeding and purging à la Rush were responsible for his recovery; however, many of his colleagues, including his old preceptor Adam Kuhn, did not favor Rush's treatment, and a bitter controversy ensued which lasted many years. Physick himself was no mean bloodletter, and his espousal of Rush's cause led to a close personal and professional relationship between them. On at least one occasion Physick's enthusiasm for blood-letting exceeded even that of Rush himself. In a letter

[7] J. S. Dorsey, *Elements of Surgery* (2 vols.), 2:384. Philadelphia, 1813.

[8] R. H. Shryock, *The Development of Modern Medicine*, p. 138. Philadelphia, 1936.

(dated December 8, 1795) to John Redman Coxe, Rush mentioned that he (Rush) ". . . drew 60 ounces of blood from a man in the maniacal state of fever in 12 hours and cured him in 2 days. But Dr. Physick has far exceeded me in this mode of reducing the system. He drew 75 ounces at *one* bleeding from Dr. Dewees in the apoplectic state of fever, and cured him thereby in a few hours. The lancet has at last become less unpopular in our city."[9]

However, in some circles the lancet had by no means "become less unpopular in our city," and, by 1797, the controversy concerning the etiology and treatment of yellow fever reached a climax; Rush was even challenged to a duel. Although Rush was a founder of the College of Physicians of Philadelphia, his theories were opposed by its members. This dissension resulted in the founding of the Academy of Medicine of Philadelphia by Rush and his supporters in 1797; Physick was the Academy's first president.

RELUCTANT LECTURER

Physick's career, however, did not suffer because of the yellow fever fracas. In 1794, he was elected to the staffs of the Pennsylvania Hospital and the Philadelphia Almshouse. His office practice grew, and he conducted a voluminous correspondence with patients living outside Philadelphia. His most important appointment came in 1805, when he was elected to the newly appointed chair of Surgery in the University of Pennsylvania. Through the influence and example of men such as John Hunter and his many brilliant disciples, surgery finally became regarded as a respectable academic subject; the establishment of chairs of surgery in medical schools was perhaps the major manifestation of official recognition of this fact. Before the establishment of Physick's chair, the students of the University of Pennsylvania—sensing, as it were, the prevailing surgical *Zeitgeist*—wished to learn more surgery than that covered by the meager offering in their curriculum. They therefore petitioned (in 1800) Dr. Physick to offer a further course of surgical lectures in the Pennsylvania Hospital. Physick somewhat reluctantly agreed to do so, but with the encouragement of Rush and others delivered a highly successful series of lectures.

These lectures were so successful that on May 7, 1805, the medical faculty of the University of Pennsylvania, belatedly anxious to answer officially the obvious needs of their students, recommended to the Board of Trustees that the Professorship of Anatomy, Midwifery and Surgery (an Edinburgh institution and hence originally adopted with enthusiasm by the old Edinburgh-dominated faculty) be abolished and that a separate chair of Surgery be established. This request was granted, and, although Caspar Wistar, the Adjunct Professor of Anatomy, also desired the new position, Physick, who had Rush's backing, was ap-

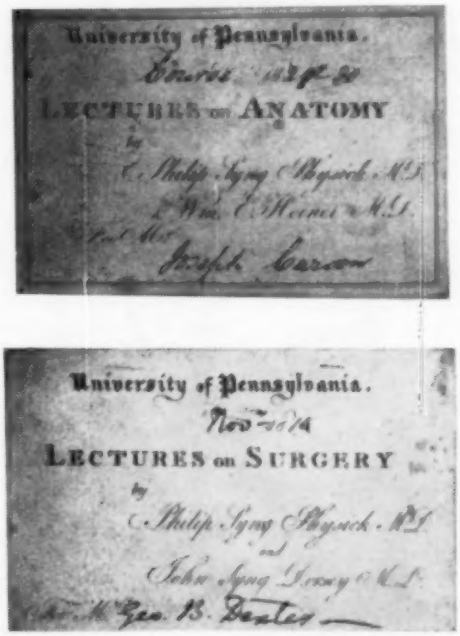

FIG. 2.—Class cards purchased by Physick's students for admission to his lectures. (*Courtesy of the Library of the College of Physicians of Philadelphia.*)

[9] L. H. Butterfield (ed.), *Letters of Benjamin Rush* (2 vols.), 2:765, Princeton, 1951.

pointed. The founding of this chair was a highly important development in American medical education, marking, as it did, the end of the old rather haphazard surgical teaching and ushering in the new age of systematic, scientific surgery.

Physick was an immediate success in the new chair. He would arise at 4 A.M. to pre-

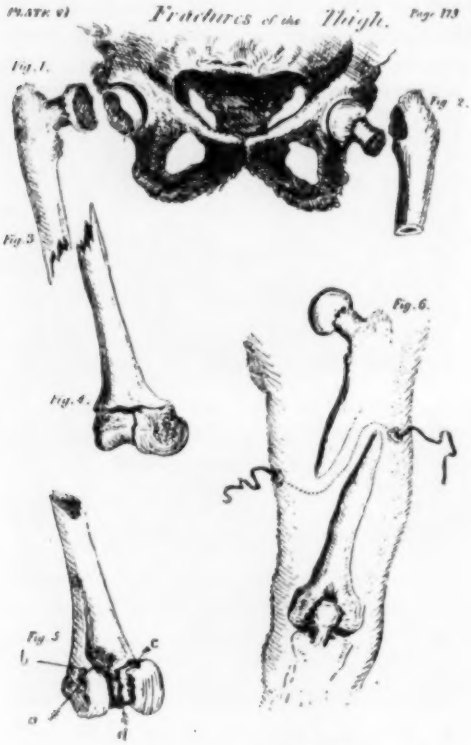

FIG. 3.—Illustration (from Dorsey's *Elements of Surgery*, 1813) of the seton operation for ununited fracture; a femur is depicted, but in the original operation a fractured humerus was treated.

pare the day's lecture, which would usually be delivered at 11 A.M. His lectures were carefully written out and then memorized, for he disapproved of extemporaneous lecturing. He lectured only on subjects with which he had had actual experience, and he did not care to waste time in refutation of a colleague's theory or in promulgation of his own. He practised and preached scientific, practical, conservative surgery and influenced his students and colleagues to do likewise. "No man," said Dr. Samuel Gross, "that ever adorned the American medical profession enjoyed so universal a reputation as Physick. . . . His pupils, who idolized him, and who were scattered through every nook and corner of this continent, disseminated his doctrines far and wide, and not a few of them became founders of medical schools and the great expounders of the art and science of surgery."[10]

TECHNICAL ADVANCES

His technical contributions to medicine were many and varied. He had an amazing talent for modifying the surgical instruments of his day, and fashioned them himself. He was a good orthopedic surgeon; for example, he modified Desault's splint for fractures of the thigh. For intractable fractures he introduced the practice of bleeding his patients *ad deliquium animi;* this crude precursor of anesthesia made the reduction possible. In 1802, he successfully treated an ununited fracture of the humerus without surgically exposing the broken ends. He passed a seton between the ends, and the suture material caused irritation, inflammation, and, eventually, osteogenesis with callus formation between the hitherto unopposed ends. This procedure was less useful in other hands, and some modern orthopedic surgeons feel that his cure was an isolated one. However, Physick and others were successful on several occasions.

Because he had experienced difficulty in stopping hemorrhage with the instruments available, he fashioned a forceps and curved needle for circumventing an artery. He combined the features of a catheter and a bougie in one instrument, thereby improving the existing means for performing paracentesis or bladder drainage. He was among the first surgeons to use catgut sutures and was certainly the first American to use them extensively. He made many improvements in the lithotomy instruments of his day.

In 1811, he devised a stomach pump for

[10] S. D. Gross, *John Hunter and His Pupils*, p. 87. Philadelphia, 1884.

the treatment of two children poisoned with laudanum; Alexander Monro, *secundus*, had advocated this procedure earlier, but Physick's discovery was made independently. His nephew, John Syng Dorsey, had used the procedure as early as 1809, at Physick's advice.

Physick was perhaps the first physician to appreciate the role of dental caries in systemic disease. He devised a dental forceps that bears his name and is still in use. Another invention was a double cannula for snaring tonsils, an instrument also useful for hemorrhoidectomies. Ultimately, Physick invented the tonsillotome and abandoned the use of ligatures for removal of the tonsils. He was the leading ophthalmologist of his day and introduced Baron Wenzel's lens enucleation procedure into the United States.

PHYSICK AND HIS CONTEMPORARIES

Physick's reputation for careful, conservative surgery drew patients from all walks of life. For example, he treated Dolly Madison and Benjamin Rush. When statesman James Monroe's daughter became ill, he and Rush were consulted. Perhaps Physick's most famous case was that of Chief Justice John Marshall; Physick (aged 63) performed a lithotomy on Marshall (aged 75) and removed about a thousand small calculi.[11] The operation was completely successful; Randolph records that "Chief Justice Marshall survived this operation some years, and finally died of a disease of an entirely different character."

In 1819, at the height of his career, Physick relinquished the chair of Surgery in favor of William Gibson and was transferred to the chair of Anatomy that was vacant because of the death of his beloved nephew, John Syng Dorsey. Although Physick continued his surgical practice during his tenure of the new chair, his influence as a teacher of anatomy was far less than as a teacher of surgery. This may, in part, explain the curious fact that, while we have traced some 27 notebooks kept by students who attended his surgical lectures, we have not yet found student notes taken during his anatomical lectures. The surgical notebooks we have consulted cover roughly the whole period of his tenure of the chair of Surgery and are invaluable guides to the nature and development of his surgical teaching.

During Physick's period as Professor of Anatomy, he had some correspondence with Thomas Jefferson, who mentioned a proposed "anatomical school" in the newly forming University of Virginia. Physick was able to help Jefferson in this matter, for in a letter dated April 3, 1824, the latter wrote as follows:[12]

> I thank you, dear Sir, for the information you have been so kind as to give me in your favor of Mar. 24. It gives us the general view we wished of the articles which may be requisite for our Anatom. school and shews the caution to be observed in acquiring them, and to avoid imposition. Besides the expence [*sic*] in the first purchase of such a collection as Dr. Horner has been so good as to describe, and that of their package I presume the risk of destruction on their passage must be very great. I see therefore that we must proceed gradatim and with great caution. With my thanks be pleased to accept the assurance of my friendly esteem and respect.

Jefferson also sought the advice of "that vivacious and pugnacious Scot," Dr. Granville Sharp Pattison, who was at that time (March, 1824) Professor of Surgery in the University of Maryland. Pattison's reply, dated March 24, 1824, occupied some six pages and gave Jefferson much useful advice about how to acquire specimens for his proposed anatomical school.[13]

PUBLICATIONS

There seems to be general agreement among historians that Physick did not publish very much. Randolph, for example,

[11] Morbid-minded historians can see these stones in the College of Physicians of Philadelphia, where they have been preserved.

[12] This letter is in the possession of the Library of Congress.

[13] This letter is in the possession of the Alderman Library of the University of Virginia (Jefferson papers).

states that "it has always been a subject of deep regret with the profession, that Dr. Physick should have evinced throughout his career such an extreme reluctance to the publication of his valuable observations."[14] Carson observed that "Dr. Physick himself published little. Some papers, hardly more than half a dozen, referring to cases, or the

TO

PHILIP SYNG PHYSICK, M.D.

Professor of Anatomy in the University of Pennsylvania.

MY DEAR SIR,

DID I not feel under obligations to you for numerous acts of kindness, I should claim the privilege of inscribing to you, as the Father of American Surgery, the following work—which, I trust, will be found to contain many of the principles taught with so much credit to yourself and advantage to your country, whilst engaged in the duties of that chair I have now the honour to hold. That you may long continue the ornament and safeguard of our Profession and a blessing to the afflicted, is the sincere wish of

Your friend and colleague,

WILLIAM GIBSON.

FIG. 4.—Dedication of William Gibson's *Institutes and Practice of Surgery*, 1824—the first printed mention of Physick as "the Father of American Surgery."

description of instruments and surgical appliances, are to be met with in contemporaneous journals."[15] However, we have found more than 25 of Physick's papers during a preliminary survey of the literature of his day. It is true that Physick published no books and no *magnum opus;* this may explain the widely held belief that he published very little. Many of his surgical contributions—published and unpublished—appear in the various editions (1813, 1818, 1823) of Dorsey's *Elements of Surgery* and also, of course, in the surgical lecture notes of his students.

[14] J. Randolph, *op. cit.*, p. 63.

[15] J. Carson, *A History of the Medical Department of the University of Pennsylvania*, p. 153, Philadelphia, 1869.

EVALUATION

Physick's health was never robust. In the archives of the University of Pennsylvania we have found that he requested an Adjunct Professor of Surgery and, later, an Adjunct Professor of Anatomy to deputize for him during his fairly frequent periods of ill health. His personal correspondence also contains many references to indisposition on various occasions. He died after a progressive deterioration in health and "without a struggle" on the morning of December 15, 1837, in his 70th year.

Does Physick deserve the title of "the Father of American Surgery" (which, incidentally [see Fig. 4] was bestowed during his lifetime)? After all, he neither made any major discoveries nor formulated any revolutionary theories, and his technical accomplishments, while assuredly worthy of respect, scarcely justify "Father" status. However, if we consider him as a pioneer of early American medical education, as a teacher of surgery, and an inspirer of young men, no man has made a greater contribution or exerted greater influence than Philip Syng Physick, truly "the Father of American Surgery."

Bibliographical note.—Physick has been curiously neglected by medical historians; Randolph's biography (eulogy might be a more appropriate description) referred to above, and John Bell's excellent article in S. D. Gross's *Lives of Eminent American Physicians and Surgeons of the Nineteenth Century* (Philadelphia, 1861) are the only reasonably detailed accounts available of his life and work. There have been many short articles, of course; of these W. S. Middleton's (Ann. Med. Hist., N.S., 1:562–82, 1929) is the most informative. The authors of the present article are preparing a full-scale biography of Physick and would be

glad to hear from readers of the *Journal* who may know of any relevant material.

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MEDICAL EDUCATION FORUM

Editorial

PREMEDICAL APPLICANTS

It is clear that fewer premedical students are filing applications to medical schools in the East. It is suggested that conspicuously able students in this premedical group are decreasing in number. What can be done about it?

It is suspected that these very able students are being diverted from premedical training by opportunities in biology, chemistry, physics, and engineering. This change in direction takes place in the freshman year, and some effort should be made to present the opportunities in medicine and explain the methods by which the difficulties can be overcome. These difficulties are often largely financial and yet, if explained to the student, can be met and overcome.

Many scholarships are available to superior premedical students—some in the medical school, but also many given by outside agencies to deserving and able premedical students. These agencies may not be known to the students, but complete information can be obtained from various medical schools. Loan funds are also available to deserving students with no interest charge until after graduation in medicine.

Candidates for the Ph.D. degree in science subjects can earn their expenses by collateral work, and medical schools should give serious study to similar opportunities during medical training, the student using his free time to qualify for such opportunities in research or teaching. Some students split a year or two, giving half-time to medical training and half-time to junior work in some science department (anatomy, pathology, bacteriology, physiology, pharmacology, biochemistry). This work would consist of research, teaching, and department routine.

Trustees of universities should give serious thought to the large fees for medical training. The return from these increases in tuition does not add up to much in the total school budget but may divert some of the ablest premedical students to science subjects in industry —a serious net loss to medicine and the universities. The argument that other medical schools are doing it is pure evasion of the question—do we wish to limit the premedical group to the children of the well-to-do families? This would be a fatal mistake, as too many of these well-to-do students have never endured hard work and do not wish to do so if it conflicts with their recreation. At this crisis in our medical training, it would be a sign of wisdom to decrease rather than increase medical tuition. These able students in some instances would become interested in teaching, and, certainly, teachers in medical schools are in short supply.

To place this information in the hands of freshman science students and their teachers is a task for the medical schools which deserves most earnest study and cooperative effort.

GEORGE H. WHIPPLE, M.D.

Datagrams*

INDIRECT COSTS TO MEDICAL SCHOOLS OF SEPARATELY BUDGETED RESEARCH EXPENDITURES

In 1957–58 expenditures for separately budgeted research in medical schools in this country amounted to $105.5 million according to figures recently compiled by the National Science Foundation.† This sum is approximately two and one-half times greater than similar expenditures of $45.3 million in 1953–54 and six times greater than the $17.1 million spent for separately budgeted research in 1947–48. Only $3.5 million was expended for this purpose in 1940–41.

A comparison for the years 1953–54 and 1957–58 of the total expenditures of medical schools for separately budgeted research, by source of support, and the respective percentage increases are shown in Table 1.

Total indirect costs of separately budgeted research, as calculated by the "Blue-Book Formula," amounted to $22.5 million for the fiscal year 1957–58. This represents a dollar increase over the fiscal year 1953–54 of $10.1 million (see Table 2). Such indirect costs are absorbed partly by the sponsoring agencies and partly by the medical schools.

TABLE 1

EXPENDITURES OF U.S. MEDICAL SCHOOLS FOR SEPARATELY BUDGETED RESEARCH BY SOURCE OF SUPPORT, 1953–54 AND 1957–58

(Amount in Millions of Dollars)

Source	Amounts		Percentage Distribution		Percentage Increase
	1953–54	1957–58	1953–54	1957–58	
N.I.H.	$14.2	$ 51.3	31.3	48.6	261
Other federal	8.6	13.6	18.8	12.9	58
Non-federal	22.6	40.6	49.9	38.5	80
Total	$45.3	$105.5	100.0	100.0	133

NOTE.—Detail may not add to totals due to rounding.

TABLE 2

SUPPORT OF MEDICAL SCHOOL INDIRECT COSTS BASED ON "BLUE-BOOK FORMULA"

(Amounts in Millions of Dollars)

Source of Payment	Federal		Non-Federal		Totals	
	1953–54	1957–58	1953–54	1957–58	1953–54	1957–58
Sponsoring agency	$2.4*	$ 7.6*	$0.9	$2.4	$ 3.3	$10.0
Medical schools	5.1	6.6	4.0	5.9	9.1	12.5
Total	$7.5	$14.2	$4.9	$8.3	$12.4	$22.5

* N.I.H. allowance for indirect costs increased during this period from 10 to 15 per cent.

* Submitted by the Division of Operational Studies of the AAMC.

† Data for this issue are based on reports prepared by the National Science Foundation. The data were collected for the Foundation by the Office of Education, Department of Health, Education, and Welfare.

During the same period the contribution of the medical schools to the indirect costs of separately budgeted research increased by $3.4 million (i.e., from $9.1 million in 1953–54 to $12.5 million in 1957–58). This means that in the more recent fiscal year, the medical schools themselves invested more of their own funds by $2.5 million in defraying the indirect costs of separately budgeted research than did the sponsoring agencies.

During the fiscal year 1947–48 the over-all average of indirect costs of federally sponsored research for all eighty medical schools amounted to 25.1 per cent of the total research expenditures. From Table 3, however, it can be seen that, among schools, the variation

TABLE 3

"BLUE-BOOK RATE" OF INDIRECT COST AS PERCENTAGE OF RESEARCH OPERATING EXPENDITURES, U.S. MEDICAL SCHOOLS, FISCAL YEAR 1958

(Dollar Data in Thousands of Dollars)

	Size Category (Indirect Cost as Percentage of Research Operating Expenditures)	No. of Medical Schools	Federally Sponsored Research Operating Expenditures	
			Amount	Per Cent of Total
Grand total	.....	80	$64,866	100.0
Total	.....	74	$63,349	97.3
	Less than 18.0	8	$ 2,002	3.1
	18.0–19.9	3	837	1.3
	20.0–24.9	30	28,428	43.8
	25.0–29.9	15	16,617	25.6
	30.0–34.9	8	8,759	13.5
	35.0–39.9	4	2,410	3.7
	40.0–44.9	4	1,800	2.8
	45.0–49.9	2	2,278	3.5
	50.0 or more	.....	.....	.....
Over-all weighted average percentage of indirect cost for all eighty medical schools	25.1	.....	.....	.....

Source: National Science Foundation, Office of Special Studies.
NOTE.—Detail may not add to totals due to rounding.

in the proportion of indirect costs to total research expenditures was considerable. Such a variation should suggest the necessity for obtaining full reimbursement of indirect costs based on rates which are determined individually for each institution.

The present formula for estimating the contributions of sponsoring agencies to the indirect costs of separately budgeted research promises to become ever more burdensome to the medical schools as the predicted funds for research increase. The Bayne-Jones Report recommends an approximate threefold increase in research funds by 1970. Should this sum for research materialize, and with no change in the present formula for allowances for indirect costs, by 1970 the medical schools would have to invest approximately $25 million more of their own funds toward defraying indirect costs of research than they did in 1957–58. Within ten years, if the present trend persists, the indirect costs to the medical schools of research will represent a sum more than twice the total amount for separately budgeted research expended by all medical schools in 1947–48.

Letter to the Editor

I have just read with great interest the recent article in *The Journal of Medical Education* on "New Medical Schools: Some Preliminary Considerations," by William R. Willard, but I confess to keen disappointment over the superficial and biased analysis of the three paragraphs concerning the 2-year school problem on pp. 98–99. The opinions are very clear, but how they were arrived at is not. To cite the alternative of establishing a 2-year school as "less attractive" reflects a judgment which, I take it, is more emotional than objectively analytical. The obvious rejoinder is, "less attractive" to whom? No doubt, the 2-year, or basic science medical school in the United States occupies a position in the pattern of medical education which in the eyes of many educators is controversial. The historical trend would seem to imply that a 2-year medical school must face one of two alternatives. It can either disappear entirely from the scene, or "graduate" into a 4-year medical school. The fact that in most instances the 2-year schools were "demoted" from 4-year schools at the time of the Flexner report because of inadequate clinical facilities suggests that the first alternative is simply the final step in an historical trend. On the other hand, the expansion into a 4-year program, of itself, is sufficiently adequate in many peoples' eyes to define respectability. This persistently negative attitude has been an important deterrent to an objective evaluation of the possibily significant role that 2-year medical schools can play in fulfilling a national need. A number of developments in the relatively recent past suggest that a re-examination of the potential role of the 2-year medical school is both warranted and timely.

Both the problems and the opportunities that beset a 2-year medical school are in no essential way different from those of the 4-year school. There are, of course, significant differences among the various elements that constitute the total responsibility of an institution when the two types of school are compared, but these differences are more of degree than of fact.

For the sake of clarity in what follows I shall assume that a 2-year medical school has meaning only if it is closely affiliated with and located on a university campus; and, similarly, it must be closely affiliated with a teaching hospital, whose staff is the part-time clinical faculty of the medical school. This system has a striking similarity to the medical schools at Oxford and Cambridge. The only requisite that differs fundamentally from that of 4-year medical schools is in the requirement that the faculty of medicine be located on a university campus—apparently not an essential consideration for many 4-year medical schools. The magnitude of the clinical facilities and faculty will clearly be less for the 2-year school than in the case of a 4-year school. Other aspects may be only trivially different from what is regarded by many schools as adequate for a full 4-year program.

Intellectual setting.—As the foundations of medicine have been more firmly defined its stature as a scientific discipline has increased. The majority of the great advances in medicine have resulted from close and deliberate association between the basic medical sciences and the clinical sciences. The results of this collaboration and contagiousness of spirit have produced investigative work and instruction in many clinical departments today

that closely resemble those activities as they existed in a basic science department not so many years ago. On the other hand, in many cases the significant advances in basic medical science were the outgrowth of problems suggested from observations made at the bedside. The results of this affiliation have been so successful that one need have little concern for their continuation in the future. The so-called "integration" of the curriculum and the trend in modern clinical investigation insure both the spiritual and intellectual tie between basic and clinical science.

The basic medical scientist has recently come into a more clearly defined relationship with the physical and natural sciences and with mathematics than ever before. This evolutionary trend has been neither sudden, nor in all cases is it fair to say that the basic medical scientist is not simply applying those principles of the mother sciences to living phenomena in medicine. The number of contact areas between the physical and life sciences is, however, increasing, and in many of the most significant frontier areas the medical and physical scientist appear to be working in parallel toward the solution of a problem which differs only in the system in which it presents itself. It is for this compelling reason that I assumed that a basic science medical school must be located on a university campus.

This posture of the basic medical sciences, intermediate between the physical and life sciences, and the clinical sciences, defines nothing unique with regard to a 2-year medical school. There is an element, real though intangible, that is of some special significance and worthy of consideration. In the 4-year medical school the center of gravity is inevitably in the direction of the clinical departments. In the majority of instances they are numerically the largest, carry the largest budgets, and are the most influential in determining the policies of curriculum and institutional function. Without enumerating the very understandable reasons why this is usually so, or posing the irrelevant ethical issue of whether this is "good" or "bad," an institutional atmosphere is often created in which the basic medical sciences are "pre-clinical" and, from a student's viewpoint, are obstacles to be "got through" before qualifying for admission into the clinical years. If the basic medical sciences can exist on their own right, as they may in a 2-year medical school, their position as fundamental disciplines is more clearly established. Lest there be any misunderstanding, I am not implying that in a basic science medical school the student must be divorced from clinical contact—quite to the contrary. Clinical material must be presented during the first 2 years, related to the basic science disciplines, and those introductions to clinical medicine—for example, physical diagnosis and correlation clinics—are as important as in any 4-year setting. The difference, then, is a subtle one. It is simply to create an atmosphere where the structure of the school is in the basic sciences, and where the relationship of these basic medical sciences is strong in the direction of both their mother sciences and the clinical sciences; but as to the direction of intensity of focus, there is no question. It is "backward" to physics and chemistry, biology and mathematics, and to psychology and sociology. In this setting the student and faculty are closely associated in a common mission, without diversion, and it is not unlikely that some students may find sufficient inspiration to elect a career in one of the basic science fields. Any device which will attract more students into careers as teachers and investigators in the basic medical sciences will surely be doing as great a service toward the solution of the medical manpower need as will the production of more practicing physicians.

Relationship to medical educational needs.—Several recent reports have enumerated the ways in which the growing medical manpower need can be met. These have included the

establishment of new 4-year medical schools, the enlargement of existing 4-year medical schools, and the creation of 2-year medical schools. It is with regard to the last possibility that we are solely concerned. Nonetheless, the second and third alternatives are intimately linked. It is variously estimated that at the present time there are available in the third- and fourth-year classes of all the 4-year medical schools throughout the United States some 500–600 vacancies. This is not due solely to the attrition rate during the first 2 years, but reflects as well a relatively recent trend in medical school-affiliated hospitals, particularly in the urban centers. As the number of affiliated hospitals has increased, and concomitantly the clinical faculty of the medical schools has increased, there has been created a potential for a student body in the third and fourth years larger than can be filled by the institution's existing facilities during the first 2 years. In general, the 4-year medical schools are reluctant to expand their facilities or indeed to cope with the larger class sizes in subjects such as biochemistry, anatomy, and physiology, while, on the other hand, a larger number can be accommodated, without compromise of educational quality, in the clinical years, with little or no additional cost to the school. It is clearly apparent how well-conceived 2-year medical schools can contribute to the medical manpower output by simply acknowledging a potential that already exists.

The economics of the establishment of the new 2-year medical school are no less confusing than that of establishing a new 4-year medical school. Experience alone will provide the answer, but it is certainly established that 2-year schools are less expensive than 4-year schools. It may, in fact, be only $\frac{1}{4}$ to $\frac{1}{3}$ as expensive as establishing a new 4-year medical school. If this impression is verified, the 2-year medical school provides a unique solution for increasing the number of physicians annually by 500 or 600 in the most economic way.

Relationships to 4-year medical schools.—One of the most serious inherent limitations in a 2-year medical school is its inability to construct a complete curriculum within the perspective of a program designed for 4 years. Assuming that the current trend which emphasizes the importance of daily reminders to the student, that the 4 years in medical school are an integral, coherent whole, will continue to gain favor, one possible solution is for the 2-year school to affiliate itself closely with a single 4-year school and design its curriculum to coincide with that institution to which its students will ultimately transfer. From a practical standpoint, it would seem unwise for an institution, independent and with separate charter, to link itself with another institution in such a dependent position. It would appear to take almost superhuman understanding for two such institutions in this locked position to function harmoniously. On the other hand, the assumption that the meticulously integrated 4-year curriculum is universally the most satisfactory form of higher education may prove to be erroneous. As greater emphasis is placed on independence in learning, plus opportunities for creative experience, and particularly as flexibility is introduced into the medical curriculum, the above problem may be less ominous. There are some even who feel an increasing concern over the rigidity of medical curricula. Elective opportunities, free time, in fact, any divergence from a tightly packed, well-ordered 4 years of life, have been traditionally denied medical students. That this in itself fosters immaturity and may indeed stifle originality and imagination in many students is not unlikely. Educators in general have forgotten that academic freedom was originally established for students, not faculty.

Problems.—The fact that at the end of 2 years the students must transfer to another institution is at the heart of most of the major problems in a 2-year medical school. Refer-

ence has already been made as to how this may complicate the construction of a curriculum. Perhaps more important is the curious psychological setting which is created by the necessary dependence of the 2-year school on 4-year schools. This is to say, at least implicitly, there is less freedom in independent planning and execution of educational programs for, from a practical standpoint, success of the school will always be determined in some measure by its facility in transferring its students to other institutions for their M.D. degree. It is placed, then, in the awkward position of examining every decision of major importance in the context of its acceptability to those other institutions where the student may transfer. There is another problem which is often never mentioned. This is that a 2-year medical school has no graduates. The students pass on into another institution from which the degree is awarded and with whom they identify. The strength that accrues to an institution through its alumni body is partially compromised.

A problem which has been mentioned by others is that the impact of a 2-year school upon the quality of medical care in the immediate locality is considerably less with a 2-year school than with a 4-year school. This is unquestionably true, although, as in most of the discussions on these points, there is a dangerously insidious ease with which the generality of 2-year schools is compared and contrasted with the generality of 4-year schools. Whether or not this lessened impact, in itself, constitutes a serious handicap is a matter for judgment only after the definitions of the goals are made clear. In a medical center there is concern and responsibility for patient care, research, and education; and in different settings the balance and priority among these three elements will vary. Since most medical educators view medical schools largely from their own experience, and this is almost exclusively from the standpoint of a 4-year medical school, there is a dangerous tendency to examine a 2-year school with reference to the extent to which it is fulfilling the function of a 4-year medical school. Although a 2-year medical school will have less impact on patient care aspects in any community, when individual examples are compared it may appear that some 2-year medical schools are more effective in this regard than are some 4-year medical schools, and this is only to say that the generalities may be deceiving. On the other hand, the kinds of research in the basic medical sciences, and the special perspective in which the basic medical sciences can be portrayed in a basic science medical school, may be considerably different than in the setting of many 4-year medical schools. From this it may be deduced that a basic science medical school will have a greater impact on the science departments of the university than will a 4-year medical school. I believe the important point is to emphasize that there are many ways of doing many things, and that the opportunities of the 2-year schools to stress research and education in the basic medical sciences, with particular emphasis on their relationships to the physical and life sciences, is an increasingly important obligation that should be assumed by some institutions in the total pattern of medical education in this country. The error in analysis arises when a judgment of "good" or "bad" is leveled at a 2-year school simply on the basis of the extent to which it measures up to a generalized conception of a 4-year medical school.

It has also been predicted that it will be more difficult to recruit an outstanding dean or a faculty for a 2-year medical school than it is for a 4-year medical school. It is not entirely obvious that this statement is valid. The only generalization that appears warranted is that all medical schools are having difficulty recruiting good deans and good medical faculties. It is unquestionably true that there will be individuals who will not be attracted in the

2-year school environment, and conversely, surprising as this may seem to those whose thought processes have been inalterably solidified by the 4-year medical school concept, there are those who are not attracted into the 4-year medical school environment. Given the resources, the opportunities for a productive life, and the proper setting, the 2-year school is at no greater disadvantage than the 4-year school. To some extent the faculty will look different from a 4-year school faculty, but then there may be some advantage in deviating from stereotypy.

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Communications

CONTEMPORARY EDUCATION IN SCIENTIFIC MEDICINE

HANS SCHAEFER*

Contemporary medicine is shaped by two facts: the enormous progress in the basical medical sciences has brought about a knowledge of the most subtle details in the mechanism of disease to which we owe a vast increase in our diagnostic and therepautic technics. However, at the time when medicine based on the natural sciences is celebrating its triumphs, the attitude of our patients has so changed that the scientific foundations of this medicine loses significance for the treatment of the majority of our patients. For this reason the complex problems of psychosomatic medicine move more and more into the foreground. Both these facts demand essential changes in the pattern of our medical education. These will be discussed here in brief.

1. *The perversion on the part of the patients.*—To know what sickness really is, one must have been in the hospitals of underdeveloped countries or even in one of the "medical dispensaries" of Central Africa where a "medical assistant"—not a medical doctor (there are too few of them in the country)—cares for the sick people. Illness is the life-endangering principle in human existence. In a world in which probably hundreds of thousands die every day from curable infectious diseases, the clientele of European or North American hospitals strikes the observer with world-wide experience as being rather odd. One certainly finds life-endangering diseases here also, but the majority are not caused by the rigorous struggle for life. Most of our patients suffer from "diseases of civilization," and in the case of a considerable percentage of them there is nothing organically wrong whatsoever. People in rich countries can afford to fall ill with such luxury illnesses. However, in particular, the patient who visits the general practitioner during his consulting hour is seldom *objectively* ill. He uses the doctor to obtain cheap social benefits, such as a sick-leave or convalescence, or to set his mind at ease in the case of minor ailments. Certainly no higher official or lawyer would trouble a doctor for such reasons. A genuine perversion on the part of the patient has arisen which has totally changed the concept of illness.

I do not propose to investigate to what extent Communist writers are right in alleging that this perversion on the part of the patient reveals the neurotic characteristics of people in a social order that is based on false foundations (Pickenhain). However, numerous contemporary observers and critics feel certain that the increase in psychosomatic illnesses is very much due to social conditions. One might investigate how such a consequence of our social order could be combatted with social methods. For this purpose a science of its own devoted solely to this problem would be required. This, however, is a question I do not intend to discuss further in this connection.

2. *The growing complexity of scientific medicine.*—The second factor which has shaped contemporary medicine is the enormous complexity of research into the basic medical

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sciences. Although at no point have we been able to win ultimate explanations of physiological and pathological phenomena, medical science has in many fields reached the stage where the phenomena of life and the symptoms of disease can only be described with the help of complicated physical and chemical theories and where, even for diagnostic purposes, methods are employed which are technically extremely complicated and the results of which are very difficult to interpret. In radiology, in ECG, in EEG, in serology, electromyography, and numerous other fields there are countless examples of this. Every text-book on clinical-diagnostic methods is full of them. The general practitioner cannot be expected to master these methods in the strict scientific sense, at least in the majority of the countries of Europe. Consequently, he himself complains that he remains below the standard which, in theory, he might reach, as became evident at the Second World Conference on Medical Education in Chicago. There are many methods which the family doctor is not in a position to apply at all, because he lacks the equipment and because the findings would be too difficult to interpret. Thus, the function of the family doctor becomes more and more that of a mere distributor of his patients, that is to say, he sends them to the specialist who is familiar with the necessary diagnostic and therapeutic methods. Of course this presupposes nonetheless a knowledge also of those illnesses which, as a rule, must be treated by specialists, as even the general practitioner must be able to recognize what specialist is competent in any specific case.

This function as a distributor is hardly satisfactory. It is therefore not surprising that doctors are trying to preserve to themselves a certain reserve of illnesses which even the family doctor is still qualified to diagnose and treat. No doubt there are such illnesses, but it is for these illnesses in particular that the family doctor should undergo special training. That this can be achieved in a perfectly adequate way is again proved by the medical assistants of the Sudan who, within a period of 1½ years, acquire such knowledge of the major endemic diseases of the country without having undergone adequate preliminary training at high school or even at a university. We should be able to accomplish a great deal more than this in the training of our doctors. However, there is much room for improvement in this respect—a need also stressed at the Conference in Chicago in 1959.

3. *Our training is not adjusted to these problems.*—If we consider the practice of our medical education, it becomes quite evident that, in Germany at least, though to a considerable extent in the U.S.A. too, our students do not receive sufficient preliminary training to enable them to cope with the problems with which they will be the most occupied. In my opinion, this is mainly due to the fact that our medical schools are engaged in two kinds of activity: in the first place they are wholly or primarily concerned with *curative* medicine, the interest of which is focused on the welfare of certain sick people. Secondly, they are concerned mainly with *research*, and teaching is given only secondary consideration—that is to say, they seek to communicate to the student of medicine mainly the findings of medical research, findings which from year to year become more difficult to communicate and still more difficult to learn. This technique has the following consequences: to an ever increasing extent the student is instructed in the findings of a research which more and more concerns *rare cases*. For as research into more common illnesses is more advanced than any other, the forefront of research moves forward to rare illnesses. The scientist, however, tends to discuss his field of research broadly. This does not mean to say that instruction is given only in rare cases at our universities, but on the average such rare cases take up a greater space in the subject-matter taught from year to year. Such research and

teaching are, however, of little practical use. Moreover, the student is introduced to techniques and theories—as, for instance, in physiology—which he can hardly understand on account of their complexitiy, certainly does not retain in his mind, and which are of relatively little value to him. On the other hand, he normally receives no instruction whatsoever in the more common illnesses such as the common cold on which, moreover, the attention of the clinical research worker is usually never focused. Nevertheless, such illnesses are of major importance to the general practitioner on account of the illnesses that accompany them. In contradistinction to the U.S.A., only a limited number of medical schools in Germany and a few isolated institutes and professors deal with the social problems of medicine, and medical science is usually blind to these social problems. It seems to me, however, that even in the U.S.A. the time devoted to the teaching of social medicine is not yet commensurate with its general importance. This social medicine is "a cooperative enterprise which involves several physicians and a variety of associated professional and technical personnel" (Caughey).

4. *Direction of a necessary reform in teaching.*—Even though no one possesses enough information or is shrewd enough to foresee the needs of future generations or to perceive technical ways and means of meeting them, it is nevertheless quite possible to predict a few general principles of the future development. It would be wise to adapt one's own intentions to these principles.

In the first place, the various countries have very different needs. It is regrettable that, in so many countries where the supply of doctors is small but the demand for them great, the practice of medical education in highly developed countries is taken as a model and copied. The Sudan, a country both poor and small, has adopted what are probably very expedient measures in order to compensate for the shortage of doctors in underdeveloped areas. There, the aforementioned "medical assistant" is trained who in 1½ years receives a sound training in the recognition of the major endemic diseases after having previously proved his worth working in a hospital for several years as a nurse (Weiss).

In the main, in the countries with a high standard of medical education, the following demands should be placed on a medical training which go beyond what, at present, is the generally accepted pattern. They follow from what I have said above.

a) In addition to receiving instruction in pure specialized science, the student should be adequately trained in the art of distributing sick patients. Up to now, he has been taught by professors who have a command of a more or less narrow special field. Even now, it is extremely difficult to prevent this from resulting in an overfeeding of the student with specialized knowledge which he neither retains nor can apply medically. Yet to a lesser extent does the specialist teach the student how to put into order unarranged material on a sick patient, to make probable diagnoses, to distinguish serious from mild cases, and what he should do about the serious cases. As a rule, the student learns what he would do if he himself were a specialist. However, this is exactly what he will rarely be required to know should he one day become a general practitioner. It is not without reason, therefore, that our general practitioners raise the demand everywhere that they should undergo a training for the medical profession even at the university. In the U.S.A. there are already a number of professorships in this kind of practical medicine. Such professorships are open to many objections, but these objections lose all their strength as long as one fails to realize the concern that gives rise to the demand. In fact, we need a "science" of the medical practice (Braun). The object of this new science would be to investigate the laws which

determine the average, best, and poorest knowledge of the general practitioner, the best ways toward a typical solution of distribution; and, moreover, to find out how much of the treatment of sick people is to be left to the general practitioner and what should not be. Instead of sound reasoning being brought to bear on these problems, the situation at present is one of an utter confusion of ideas.

b) The student must be given particularly intense and comprehensive training in those illnesses the treatment of which should be left to the general practitioner. This is where the chief stress of teaching should be laid. The delimitation of these illnesses from all kinds of rare cases must be worked out with special care. Moreover, it must first be determined what illnesses are to be included in this reserve. Their therapy should be dealt with in particular detail. In order to carry out correctly this kind of instruction, the academic teacher of course must know what the practice of a family doctor looks like and how the new findings of theory can be applied in practice (Caughey). We must therefore devise a kind of feed-back of academic training which reacts on the universities.

c) The psychical aspects of illness, too, can be grasped and treated by rational means: by one of the many branches of "psychotherapy" and "psychosomatic" medicine. True, a doctor endowed with significant human qualities can apply intuitively many psychotherapeutic techniques without having first learned them. However, when throughout the world such strong emphasis is laid on the professional ethics of the doctor, then it must be said in answer to this that no fact can be adduced to prove that doctors have or even need more professional ethics than other academic professions. What the doctor is supposed to do with his "professional ethics" can also be justified on rational grounds and through the application of techniques which can be objectively investigated. Nevertheless, it is important that the doctor needs a certain ethical foundation; but this is needed in all professions in which human beings are either directly or indirectly affected by the professional activity. What we need is a lead in academic teaching as to how the doctor should act here, what laws determine the "human relations" between doctor and patient.

d) It must be taught how it is that medicine has a social side, that is to say, to what extent medical treatment on the individual is of relevance to the community at large. In particular, it must be taught what measures the doctor—or with his help the government—can take in order to protect the community against illness or in order to cure it of specific illnesses. This is being done everywhere to a certain degree in the training for specific medical activities, but the general practitioner needs more of this kind of knowledge in order that he may follow better the development in medicine that is now getting under way.

e) Traditional methods of teaching must be improved by these new objects. It should not, however, be replaced by them. However, even traditional teaching methods are in need of a number of radical improvements. The most important of these is that everything now being taught must be reappraised to see whether future generations will need these things. "Need" means two things: first, every general practitioner or specialist, no matter what his field is, must be familiar with certain facts or methods. Second, the student must be trained to develop his faculty of judgement; he must learn to think critically. Certainly the training of the mind is the most essential result of medical education. In recent times this aspect has frequently been stressed by eminent American scientists (cf. Hutchins, Conant). Facts can be looked up at any time, whereas a schooling in critical thinking cannot be undergone without the guidance of a teacher. To think critically,

one must acquire a feeling for what is in medicine impossible, improbable, possible, probable, or certain. One must be capable of judging the conclusiveness of apparent proofs. It is true that this ability is largely a matter of the doctor's intelligence, but the schooling our doctors receive in thinking along natural-scientific lines is highly inadequate. They learn facts, but not what can be deduced from facts. The low educative value of the "facts" has been very clearly stressed by Pickering. A superficial education in the natural sciences can almost lead to uncritical thinking, insofar as the doctor falsely believes that he knows how to handle the scientific tool and that he has learned to think, whereas in fact he has not understood the problems of natural science and now considers many things that are impossible to be possible.

In this connection attention must be drawn to the danger involved in the so-called research carried out by students. In recent times, it has even been propagated by schools of very high standing (Lippard). There is no objection to this if, by such student research, one understands a training in complicated experimental techniques as done in the practice for advanced students of biology in England or Woods Hole. However, I have seen laboratories in the U.S.A. where experiments conducted by such students in a routine-lab, with a whole class taking part, have been used for publication in medical literature. This seems to me to be partly a declassification of the term "research" and partly an overestimation of the abilities of the students. If the student is brought up to believe that he is qualified to carry out more or less independent research on his own account, then a new kind of uncritical attitude is produced in him both toward himself and toward his work (Schaefer).

In an age of growing specialization and complexity of the sciences there is altogether a great danger that education tends to become pseudoscientific. The term "pseudoscience" was also frequently used during the debate when, at the Second World Conference on Medical Education in 1959 in Chicago, the scientific training of young doctors and students was discussed. It is not certain whether the average student of medicine understands the basic problems of modern research into the natural sciences at all. The majority of medical students have no real talent for the natural sciences. In teaching, however, we must ensure that we remain intelligible to the average student, It can be shown that this demand is not met by the teaching of chemistry and physics at many German universities for instance. The first demand is, therefore, that instruction should be given in an intelligible form which in most cases presupposes institutes and professors of natural science in the medical schools. However, even in all other subjects, especially in physiology, instruction is not adequately adjusted to the understanding and requirements of the doctor. In many cases, of course, the student's inability to follow instruction of a high standard is due to poor high school education which is poor not only in the U.S.A., but also in Germany, despite the praise awarded to it by Conant.

Furthermore, it is notable that, especially among the leaders of our large industrial concerns, the feeling has emerged that their needs are not met by "specialists" who, though knowing the tricks of their trade, have a poor general education (Reusch). Conant, too, expressly demands for the U.S.A. an improvement of studies in the general sciences. The ability to survey more than one narrow field and to make critical judgements is, at any rate, of much greater practical value than a training in twenty special fields, however intensive it may be.

f) We have no idea whatsoever of how much a student can retain of such an enormous bulk of knowledge which he forgets again as quickly as possible. I feel that in this respect

the minds of the students are much wiser than those of the professors. In Chicago it was argued vehemently that learning in medicine should be subjected to a scientific investigation. In this journal, too, several articles have recently dealt with the theory of learning and the resistance to learning. Evidently, little work has been done on the relative successes of the various methods of teaching, and the findings thereof are somewhat nebulous (Joyce).

g) Medical education is altogether a possible object of research (Darley), as was also repeatedly stressed in Chicago. The advance of knowledge in fields which reveal observable facts has, as a rule, been achieved by means of experiments. Following the lead of Western Reserve, large-scale experimental work has been begun in the U.S.A. on which many reports are available. European countries have hesitatingly followed suit. In Germany, I am only familiar with the experiment of the Giessen Faculty which is probing really new ways. The problems of the future cannot, however, be solved with a conservative mentality.

The points indicated here represent a selection, but at the same time a selection of what I consider to be the most important improvements to be made in the field of medical education. The impression received at the Second World Conference on Medical Science in Chicago was that what was brought forward, even here, was mainly information on the existing order of things and that its validity was only seldom radically questioned. Only occasionally did it become evident that we are in the middle of an almost catastrophic expansion of scientific knowledge and that the situation calls for extra-special efforts on our part. We must investigate all that we possess and have grown to accept to see to what extent it still applies and to assess its effects. Unless we think "radically" and act accordingly, the development will pass over our heads.

Obituaries

ROLF CHRISTIAN SYVERTSEN

On January 28, 1960, a head-on automobile collision brought death to the Dean of the Dartmouth Medical School. As befitted the life of Rolf Syvertsen, his last act related to an interest in the welfare of students. On this sad occasion he was transporting two of his daughters and two Dartmouth students from a rehearsal of the Winter Carnival play.

Rolf Syvertsen was a devoted member of the Association of American Medical Colleges. He was an intelligent man with a great Christian faith, as exemplified by his interest in St. Thomas Episcopal Church in Hanover. He was active in national Episcopalian programs as well as the Hanover church.

As a teacher of anatomy he emphasized the role of this science in introducing the student to the whole fabric of medicine. Just as medicine was taught in an atmosphere of dignity and respect for the patient by Sir William Osler, so anatomy was taught in an atmosphere of dignity and respect for the cadaver by Rolf Syvertsen.

For many of us an empty chair in the front row at the annual meeting and an empty space on the wall for his annual gift of a Dartmouth calendar will symbolize his contribution to medical education and the warmth of his friendship.

JOHN Z. BOWERS, M.D.

CHARLES L. BROWN

The death of the Dean of Seton Hall Medical College terminated the career of a man who at an age when many of us cling to the shore was willing to sail boldly into uncharted seas. After a satisfying career as Dean of Hahneman, Dr. Charles L. Brown moved to Jersey City to take responsibility for the development of a new medical college in association with Seton Hall. As with any new medical school there were many problems and many opportunities. The complexities associated with establishing educational and research programs in a municipal hospital are well known to many of us; Dean Brown handled these with evident skill.

Charley Brown was a friend to many and a devoted member of the A.A.M.C.

JOHN Z. BOWERS, M.D.

ABSTRACTS FROM THE WORLD OF MEDICAL EDUCATION

ANGELA SANCHEZ-BARBUDO, PH.D.
Abstract Editor

Changing Trends in Clinical Investigation. CHARLES H. BURNETT, M.D. A.M.A. Archives of Internal Medicine, Vol. 104, No. 6, pp. 848–50 (Dec.), 1959.

In this address, read at the 108th annual meeting of the A.M.A. in Atlantic City, June 9, 1959, Prof. Burnett (University of North Carolina School of Medicine) discusses briefly some problems brought about by the impact on clinical investigation of science's recent dynamic developments, which must be met by all those who are assuming the vital responsibility of fostering and maintaining clinical research. Today opportunities in clinical research are greater than ever before, yet the astonishing advances in all the physical and natural sciences have created a peculiarly difficult dilemma for the clinical investigator: as medicine has become more and more a precise science, a sound knowledge of basic sciences has become imperative, and widespread among hospital residents is the feeling that their preparation in these sciences has not been sufficient. Hence, the resident, usually well past 30 years of age, is faced with the difficult decision of embarking upon further extensive training in chemistry, nuclear physics, genetics, etc. To meet this need for further basic scientific training in many research centers, biochemists or physicists have joined the clinical groups. A similar intermingling of learning is also developing increasingly among interdisciplinary groups who pool their capabilities in order to tackle certain arduous problems of clinical research. Another problem discussed in this paper concerns the role of animal experimentation in clinical investigation. It could be argued, the author points out, that the clinical investigator should limit his activities to the study of sick people, persuading his colleagues in the basic sciences to carry out the animal experiments. Such an attitude, however, besides proving to be impractical, enters into conflict with the scientific principle which requires of the true investigator to seek the answers to his questions by using any and all means and techniques available to him. Furthermore, since the terrible events of World War II, scientists and laymen alike have become increasingly concerned with the complexity of the legal, ethical, and moral aspects of *human* experimentation, and this is, doubtless, one reason why one finds today in most clinical research centers many more rats and dogs than a generation ago. Although there is no easy answer to any of the problems discussed, what seems certain is that clinical investigation should and will become more closely associated with the rapid developments in all the basic sciences. The implications of this definite trend are various, but the most important one for the clinical investigator is, perhaps, to remind himself periodically that his primary goals are related to the better understanding and treatment of sick people and that the approach is less important than the goal.

The University in Our Civilization. JOHN W. GARDNER. The Educational Record, pp. 5–10 (Jan.), 1960.

Discussed in this article is the changing role of the university in our days, which can

be seen most clearly in the scope and importance of its commerce with the rest of society. The rise of a university to a position of leadership has occurred, the author believes, more rapidly than university people themselves have been able to assimilate. However, the increasing university involvement in the world of affairs has given rise to debate. There are, in the first place, the critics who object to the university's being entangled in practical affairs. To these the author replies that they cannot hope to reverse a position that Americans have held for almost two centuries: already in the eighteenth, such men as Jefferson and Benjamin Rush were advocating education's service to community, and in the nineteenth land-grant colleges and state universities were championing the idea best synthesized in the phrase of Alfred North Whitehead: "Celibacy does not suit a university. It must mate itself with action." The question, therefore, is not whether universities should be active in the world of affairs but whether they will be able to meet the demands made upon them; whether, in the author's words, "it will exhibit qualities of statesmanship or function as a sort of badly organized supermarket?" The direct involvement of universities in the practical affairs of the community occurs at three levels: (1) the independent activity of individual faculty members, in which administrative influence is usually not exercised; (2) activities in which the university *must* take an administrative interest, such as research involving substantial grants, staff, or space. The questions which the administration has no choice but to ask, with increasing rigor, are: Is the proposed activity compatible with the aims of the university? Where should it stand on the list of priorities? Does it strengthen or impair the university's capacity to carry out its principal function? etc. While at the first level the university makes no commitments, and at the second the commitment is merely to provide certain kinds of support, it is characteristic of the third level of activity that the university must assume (3) a *continuing institutional responsibility*, as, for instance, in the case of the university's role in precollege education, or in international cooperation (e.g., in the International Cooperation Administration), which accords with the universities' long and honorable tradition of international activities. No outsider, the author warns, can presume to say how far the universities should go in meeting all these demands. The only principle they must follow is that in everything they undertake they should be true to themselves.

Les Facteurs Sociaux de la Mortalité Infantile à Montréal. JACQUES HENRIPIN. L'Union Médicale du Canada, t.89, No. 2, pp. 200–208 (Feb.), 1960.

Today in Canada three of every 100 infants born die before completing 1 year of life. This ratio, however high it may seem, represents nevertheless the result of one of the most fruitful fights waged against death by medicine and hygiene, since it is not so long ago that the death rate, during the infant's first year of life, was varying from 25 to 30 per cent. However, the different classes of society have by no means enjoyed an equal share in this advance. This study (the first of a series of reports on an investigation financed by the Ministry of Health of the Province of Quebec) deals with two aspects of the problem: (1) an evaluation of infant mortality differentials in Montreal (where the infant death rate is relatively high), and (2) the determination of the role played in infant mortality by social, economic, and ethnic factors. The investigators adopted Bourgeois-Pichat's classification of infant deaths into two categories: those due to *exogenous* causes (that is, factors relating to the environment, such as bad food, infectious diseases, etc.), and those due to *endogenous* causes (connected with the infant's constitution itself, as immaturity, congenital malformations, etc.) The latter (or "peri-natal mortality") is to a large extent represented by still births and depends considerably less on social conditions. This division provides the basis for Bourgeois-Pichat's *biometrical method* which

dispenses with the use of the frequently erroneous death declarations. Two main approaches have been taken: (1) the first is based on the analysis of birth and death certificates for the year 1950 which permitted the measuring of infant mortality in relation to the father's occupation, ethnic origin, etc. The second approach consisted in determining the infant death rate for 39 areas in Montreal, during 1950–1954, and then correlating the differentials with certain social characteristics prevalent in the different regions (according to the 1951 census of Canada). This first article gives the primary results of the investigation, that is, the infant mortality rates computed according to the two methods described. Although it is pointed out that the occupational mortality rates are of questionable value due to deficient information, the investigation shows nevertheless that *exogenous* mortality is among the working class 2 times higher, at least, than among the professional class. As to the regional measurements, it was found that in the most privileged areas the *exogenous* death rate was 5.4 per mill, compared with 33.8 per mill for the least privileged ones. For the "peri-natal," or still birth mortality, the differences are less important: comparison of the most privileged with the least privileged regions shows a ratio of 1 to 4. Summing up, it can be said that differences of that scope clearly indicate the importance of social factors in infant mortality. An analysis of these factors will be found in the next report, to be published in a coming issue of *L'Union Médicale du Canada*.

Humanisme et Médecine (Humanism and Medicine). A. VANNOTTI. La Presse Médicale, No. 56, pp. 2115–2117 (Nov. 28), 1959 (Paris).

In this paper, read at the Congrès Française de Médecine (held in Lausanne, Oct. 8–10, 1959), Prof. Vannotti presents a lively review of the marvelous developments which have taken place in medical research, with special emphasis on the contributions made by the French-speaking countries during the last few decades. After having surpassed the phases of descriptive medicine, of morphological discoveries relating to organic lesion, and the epoch of bacteriological investigations, medical science today has entered its great era of functional research into the processes of life itself, with biochemistry and physics opening constantly new horizons. However, medicine's new grandeur has brought with it also new risks, such as the danger of overspecialization and of too much emphasis on science and technology—in short, the danger of a *dehumanization* of medicine. To prevent this danger, the physician must strive for a harmonious balance between his scientific, intellectual life and the *feelings* awakened by the contemplation of nature. Such a synthesis, the author believes, will stimulate and enrich the scientist's objective labor, instilling in him a passionate desire to find *the truth* and to search for *the absolute*. For the man of science, incomparable poetry and beauty can reside in such work which brings him close to the palpitating inspiration of the poet, painter, or musician, in the moment of creation. He feels, according to the author, the same sort of intellectual enjoyment, the same artistic enthusiasm when contemplating a painting of Poussin or Cézanne, or reading Baudelaire's poetry, for instance, as when he regards "the admirable arabesques of a formula of porphyrine which, hiding in its heart an atom of iron, gives birth to hemoglobine . . . whereas with an atom of magnesium it transforms itself into chlorophyll, and with an atom of cobalt succeeds in constructing vitamin B-12." How is it possible, he asks, not to be seized by the greatest admiration when discovering the biochemic similarity of the pigments characterizing the animal and the vegetal reign? And who could remain insensitive to the thought that what differentiates the gracefulness and feminine beauty of a Botticelli Venus and the virile force of Michelangelo's David is, biologically speaking, just the slightest variation in the structure of the mormonal steroid? Such moments of thoughtful exaltation before the work of

art or the scientific problem make us conscious of "the force and the honor of being man" (Malraux). Medicine, and the ensemble of medico-biological doctrines, by so closely touching *the human*, are particularly apt to give the measure of this association between scientific reality and the feeling for art. And if, on one hand, intuition has become indispensible for the physician in his research, it would, on the other, rapidly lead to empiricism if *science* were not there to prevent its abuse. Thus, an equilibrium is created between the enthusiasm provoked by the beauty of a problem and the cold scientific finding. In these moments of crisis, of anguish and worry over what is to become of man and the human species, helplessly confronted by the almost boundless power of science, the task of setting up real limits and true proportions for science has become more urgent than ever. The sense of "the just measure," the author believes, can only be found in the contemplation of nature, in the freedom of the mind, and the study of all the beautiful and the good produced by a long, rich past: in the return, in short, to that humanism which has left such deep and tangible traces in the Old World.

Il Medico Pratico di fronte ai Radioisotopi (The Practicing Physician and the Radioisotope). B. BELLION. Minerva Medica, Vol. 51, No. 6, pp. 213–17 (Jan. 20), 1960 (Turin).

When C. F. Behrens asserted in 1949 in his book on nuclear medicine that "the atom is knocking at the doctor's door," it seemed as if this affirmation was merely the expression of a personal enthusiasm but did not quite correspond to reality. However, the latest developments in nuclear physics, with their applications to biology and medicine, have demonstrated in the most convincing manner that the atom has, indeed, already passed the threshold of the doctor's office. Today the general practitioner cannot afford anymore to ignore the medico-biological applications of nuclear physics and the techniques which have come out of the laboratories. Likewise, it is extremely important for the general practitioner to familiarize himself with the use of radioisotopes. In this paper Prof. Bellion (The University of Turin General Medical Clinic) discusses the following questions: (*a*) What are radioisotopes? (*b*) How are they produced, and how can they be measured? (*c*) What are their most common diagnostic and therapeutic applications? (*d*) Which are the dangers involved in their use and what means of prevention are there? These questions are answered with the aid of a series of graphic illustrations.

NEW BOOKS

KENNETH E. PENROD
Book Review Editor

Abstracts

Sociological Studies of Health and Disease. Edited by DORRIAN APPLE. New York: McGraw-Hill Book Co., Inc., 1960. 342 pp. $7.50.

There are many problems in patient care which involve human behavior and relationships. The solution of these problems by the practitioner requires an understanding of the social and psychological forces at work. These forces and their relevance to patient care are the subject of this book. A total of 30 authors participated in this work. The studies presented were carried out by sociologists, anthropologists, and psychologists, in some instances in collaboration with physicians. Their settings include a neighborhood in a large city, a tuberculosis sanitarium, the medical and surgical wards of a general hospital, a suburban community, a state-supported mental hospital, and the surgical service of a teaching hospital. The methods of research, the facts ascertained, and how inferences were drawn from the facts are described in detail for each study. The problems in patient care to which these studies apply are: educating the public to recognize when they need health care; difficulty in communicating with or understanding patients, and how such difficulty can be remedied; dealing with emotional and motivational impediments to a patient's recovery; and raising the efficiency and morale of personnel. The application of the studies is reviewed, together with the main sociologic concepts involved, in the introduction to each of the four sections of the book. An annotated bibliography is provided at the end. This volume has been prepared for the use of students and teachers in nursing, medicine, administration, health education, and the social sciences. Guidance in the use of this book from a teacher acquainted with sociology is advised for students without training in this subject. This book came about through a project sponsored jointly by the Russell Sage Foundation and Boston University School of Nursing.

Drugs of Choice, 1960–1961 Edition. Edited by WALTER MODELL with 47 contributors. St. Louis: The C. V. Mosby Co., 1960. 812 pp. $13.50.

This is the second edition of this book, following by 2 years the first. In the present book there are eight new chapters. Three chapters are written by new authors. Thirteen new names will be found in the list of contributors. In this edition a single alphabetically arranged all-inclusive drug index is used in preference to the separate specialized lists of drugs which followed the individual chapters in the original book. Drugs not mentioned or evaluated in the text, are likely to be found in the drug index, but they will not appear in the general subject index, which includes page references for only those drugs described in the text. Failure to discuss a new drug in the text may be interpreted to mean that the drug was introduced too recently to provide experience for a substantial opinion. Failure to discuss an older drug may be interpreted to mean that it is not a drug of choice and, in the author's opinion, is not of sufficient importance to merit discussion.

Textbook of Otolaryngology. By DAVID D. DEWEESE and WILLIAM H. SAUNDERS. St. Louis: The C. V. Mosby Co., 1960. 455 pp. $8.75.

This textbook is designed primarily for the medical student and the general practitioner. Emphasis is on diagnosis and treatment. The discussions of anatomy and physiology contain adequate data for orientation but are not so detailed that the student is overburdened. The selected readings indicate sources of additional information. The first chapter emphasizes techniques of examination of the ears, nose, and throat. Attention is drawn to new concepts of

diagnosis, treatment, and rehabilitation which, in the last 2½ decades, have broadened the scope of the specialty. Special emphasis is placed on diseases of the salivary glands, the facial nerve, and speech problems, chapters of importance which are often overlooked. Current interest in otological surgery and in the physiology of hearing has led to careful correlation of disease states and operative procedures with anatomy and physiology of the ear.

Essentials of Orthopaedics. By PHILIP WILES. 3d ed. Boston: Little, Brown & Co., 1959. 550 pp., 417 text figures. $13.00.

A very extensive revision has taken place in this edition. The scope has not been changed, but the author has tried as before to conform to the elements of the subject, both physiological and pathological. The intention has been to indicate the nature of the disease or disorder, how to recognize it, what can be expected in treatment, and time and effort to which the patient is committed by treatment; operative details of interest chiefly to the specialist have not been described. Every section has been revised, often extensively, and many have been practically rewritten. The anatomical terminology has been brought up to date. Several new subjects have been introduced; but a lot of dead wood has been cut out, and the number of text pages has increased only by 24, much of this being accounted for by additional illustrations. The sections that have been rewritten or extensively revised include postural defects of the feet, low back pain, the anatomy and pathology of the intervertebral discs, spondylolisthesis, scoliosis, the surgery of osteoarthritis of the hip, gout, pain in the shoulder, arm, and hand, and diseases and disorders of tendon sheaths, osteoclastoma, and the treatment of congenital dislocation of the hip, Perthes' disease, rheumatoid arthritis, and tuberculous arthritis. The material now included in the chapter on Blood and Allied Diseases has been completely rewritten. The new topics about which short sections have been added include congenital vertical talus, stress fractures, aneurysmal bone cysts, adamantinoma, leukemia, hereditary hemolytic anemia, sarcoidosis, and hypertrophic osteoarthropy.

Central Nervous System and Behavior. Selected Translations from the Russian Medical Literature. Prepared and distributed by the Russian Scientific Translation Program, National Institutes of Health, Bethesda, Maryland. Dated December 1, 1959.

This collection of articles translated from the Russian medical literature was prepared primarily for the critical review of the participants at the Third Josiah Macy, Jr., Foundation Conference on the Central Nervous System and Behavior. This conference, under the joint sponsorship of the Macy Foundation and the National Science Foundation was held at Princeton, N.J., February 21–24, 1960. Since these papers have value for a wider scientific public, the National Institutes of Health has arranged to distribute them to medical libraries throughout the United States and Canada. Many of the articles in this volume are not normally available to American scientists who do not read the Russian language. Some have appeared, however, in journals translated for the National Institutes of Health. The articles selected do not necessarily represent the best research conducted in Soviet laboratories but were selected as being generally representative of some of the more recent Soviet research concerned with the understanding of human behavior. The Russian work has interest for two reasons: first, because it represents a sample of more recent development of a long-standing historical interest in the central nervous system; and, second, because communication between Soviet scientists and scientists of the Western world has been inadequate.

Essentials of Healthier Living. By JUSTUS J. SCHIFFERES. New York: John Wiley & Sons, Inc., 1960. 327 pp. $5.50.

This book is subtitled "A Realistic College Text in Personal and Community Health." It is essentially a contraction of "Healthier Living, 1954" by the same author. The subject matter is divided into five major areas: personal health, including nutrition and orientation to college life, 35 per cent; education for family living, 20 per cent; mental health, 20 per cent; protection against personal and community health hazards (i.e., disease and accidents), 10 per cent; and community health, 15 per cent.

Forensic Medicine—Observation and Interpretation. By A. KEITH MANT. Chicago: The Year Book Publishers, Inc., 1960. 257 pp. $8.50.

It is the object of the first part of this book to present to those who may be called upon for

expert medical testimony the sort of knowledge which may enable them at an early stage to recognize the possibility of an unnatural death, and whether this death is likely to have been homicidal, suicidal, or accidental. Photographs and case histories have been used freely to illustrate important details, as experience has long shown that a case history and the lesson it has to offer is better remembered than any amount of theory however loosely expounded. The second part deals with the medical aspects of sexual offenses.

Polysaccharides in Biology. Trans. Fourth Josiah Macy, Jr., Foundation Conf., May 21, 22, and 23, 1958, Princeton, N.J. Edited by GEORG F. SPRINGER. New York: The Josiah Macy, Jr., Found., 1959. 306 pp. $5.95.

The titles of the subjects for this conference were: Chondroitin Sulfates by Karl Meyer; Biology of Chondroitin Sulfates by Richard H. Follis, Jr.; Heparin and Related Substances by M. L. Wolfrom; The Mast Cell by Robert D. Higginbotham; Biosynthesis of Sulfated Polysaccharides by Harry Bostrom; Synthetic Nonbiological Sulfated Polysaccharides by Murray J. Shear; and Sulfated Polysaccharides of Plants by Leonard Stoloff.

Pediatric Dermatology. By HENRY H. PERLMAN. Chicago: The Year Book Publishers, Inc., 1960. 461 pp. $18.00.

This book is designed to be clinically useful to pediatricians, general practitioners, teachers, and students, and it contains the sum of dermatologic knowledge essential in the care of infants and children. It is the desire of the author who is both a pediatrician and a dermatologist to equip the practicing pediatrician and general practitioner with the necessary information to make a careful diagnosis and a wiser use of the therapeutic armamentarium.

Back Pain—Diagnosis and Treatment Using Manipulative Techniques. By JOHN MCM. MENNELL. Boston: Little, Brown & Co., 1960. 218 pp. $9.50.

The author is the son of a physician who devoted much of his professional life and indeed many of his writings to the same subject. The present author has based this work on his own clinical experience of 18 years of dealing with problems of the back in various countries, in many different types of patients, and at various places in this country. In precise detail he discusses the clinical examination and indicates the signs by which the underlying pathology is detected. Then he discusses the treatment techniques with which he has had dramatic success. Principal among these is the use of manipulation to restore the loss of movement in the involuntary range of movement of the synovial joints in the spine.

A Bibliography of Internal Medicine—Selected Diseases. By ARTHUR L. BLOOMFIELD. Chicago: The University of Chicago Press, 1960. 300 pp. $6.00.

The keynote of this volume, like its predecessor, "A Bibliography of Internal Medicine: Communicable Diseases" is an attempt to bridge the gap between past and present in medicine. Twenty-one diseases of old and honorable lineage have been selected, and an effort has been made to list every reference of fundamental importance in the development of each, with appropriate excerpts for the benefit of the reader who does not have access to the originals or who has difficulty with French or German. Much of the material is a reprint of articles previously appearing in *Stanford Medical Bulletin* and *Archives of Internal Medicine.*

Brucella Infection and Undulant Fever in Man. By SIR WELDON DALRYMPLE-CHAMPNEYS. New York: Oxford University Press, 1960. 157 pp. $5.75.

From a study of 1500 cases the author has attempted to provide a book of moderate size and cost giving an account of Brucella infection in man, its origin, the nature of the infecting organism, the clinical features of the disease it may produce, its pathology, prevention, diagnosis, prognosis, and treatment. From the voluminous literature on the subject the author has listed only those books and papers which give authority for the statements made or which will give the reader an opportunity, if he so desires, of obtaining fuller information on such points as cannot be fully set out here for the lack of space.

Heritable Disorders of Connective Tissue. By VICTOR A. MCKUSICK. 2d ed. St. Louis: C. V. Mosby Co., 1960. 327 pp. $12.00.

The first edition of this book was a limited publication based on a series of articles which

appeared in the *Journal of Chronic Diseases*. In this second edition over 80 illustrations have been added to round out the clinical and pathological descriptions, the text has been expanded by about 130 pages, and the literature since the preparation of the first edition has been surveyed. It is especially the generalist—the general practitioner and the internist and pediatrician without particular subspecialization—to whom the problems related to the several syndromes discussed here are of importance and to whom this book is addressed. However, owing to the ubiquity of connective tissue, all practicing physicians are intimately concerned with this subject. One objective of this book has been a synthesis of the scattered information about several conditions which have in common the fact that they are generalized disorders of connective tissue and are heritable even if not inherited in the individual instance.

Pharmacology and Therapeutics. By ARTHUR GROLLMAN. 4th ed. Philadelphia: Lea & Febiger, 1960. 1018 pp. $12.50.

In this edition, the general plan of the early editions has not been altered. However, each page has received critical scrutiny, and many parts of the book have been entirely rewritten. The book is so arranged that teachers, desiring to do so, may take up the subject in any order that they prefer. Since the primary purpose of a course in pharmacology is to convey to the student the basic mechanisms of drug action, special attention has been devoted to this aspect of the subject. Many sections of the present edition have been entirely rewritten, including those on corticosteroid therapy and the treatment of cancer. These two sections and the chapters covering the present-day use and understanding of tranquilizers, psychic energizers, and the newer hormones, etc., are presented in such a rational and scientific manner as to make them unique in a pharmaceutical text. Numerous new illustrations have been added.

Psychiatry: Descriptive and Dynamic. By JACKSON A. SMITH. Baltimore: Williams & Wilkins, 1960. 333 pp. $7.00.

The aim of this book is to describe concisely the various syndromes seen in psychiatric patients and to make these syndromes recognizable to student and physician alike. Rare and obscure conditions have been minimized in favor of detailed discussions of the more frequently seen disorders. The signs and symptoms on which the diagnosis of the various disorders rests are described: this is in keeping with ordinary medical practice in which diagnosis precedes treatment. Controversy, areas of theoretical discord, and nonmedical speculation have been minimized. The prevailing dynamic concepts are included, as well as a brief review of their origins. Theoretical differences between the founders of the different schools of psychiatry are mentioned.

Fundamentals of Modern Allergy. Edited by SAMUEL J. PRIGAL. New York: Blakiston Division, McGraw-Hill Book Co., Inc., 1960. 671 pp.

This work, sponsored by the New York Allergy Society, developed from the publication of the series "Fundamentals of Modern Allergy" in the *New York State Journal of Medicine*. As the title indicated, the book considers briefly the fundamentals of allergy with the emphasis on diagnosis and treatment. Special emphasis has naturally been placed on the most common allergies—asthma, hay fever, eczema, and urticaria. However, the practitioner must also be familiar with the less common allergies involving the gastrointestinal, hemopoietic, and central nervous systems. Also covered by full chapter treatment are such subjects as autosensitivity, the role of allergy in cancer and transplantation, and enzymatic approach to allergy, histamine, and processes of histamine liberation, climate, and asthma, rehabilitation of the asthmatic patient, and the relationship of asthma to bronchitis, emphysema, and other pulmonary diseases.

Books Received

Lehrbuch der Geburtshülfe. By HEINRICH MARTIUS, H. HARTL, and KATHE DROYSEN. 4th ed. New York: Intercontinental Medical Book Corporation, 1959. 707 pp. $14.20.

Chaucer and the Mediaeval Sciences. By WALTER CLYDE CURRY. 2d ed., Revised and Enlarged. New York: Barnes & Noble, Inc., 1960. 367 pp. $4.50.

Association of American Medical Colleges

Annual Report, Minutes, and Proceedings for 1959

Special Meetings of the Institutional Membership

February 7, 1959, and November 1, 1959

The Seventieth Annual Business Meeting

November 4, 1959

Third Annual Meeting of the Continuing Group on Student Affairs

October 31, 1959

Second Annual Business Meeting
Medical School–Teaching Hospital Section

October 31, 1959

Chicago, Illinois

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Preface

This volume is to be considered as the 1959 Annual Report to the membership of the Association of American Medical Colleges. The report begins with the paper "The Next Ten Years and the Association of American Medical Colleges," which was presented by the Executive Director, Dr. Ward Darley, at the 1959 Annual Meeting. This paper is followed in turn by the minutes of the meetings of the institutional membership held February 7, November 1, and November 4, 1959; the Continuing Group for Student Affairs on October 31, 1959; and, finally, the Medical School–Teaching Hospital Section on October 31, 1959.

The volume is more than the record of a year's transactions of an organization with a long name; it is a volume that contains either the record of or references to the most important events that are taking place in American medical education. During the immediate years ahead, it is intended to continue with this type of publication, thus providing a volume that will assume considerable importance in the world's growing literature about medical education.

Officers of the Association and Members of the Executive Council, 1958–1959

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Executive Council, 1961: JOHN F. SHEEHAN
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Executive Council, 1960: STANLEY OLSON . . . . . Baylor University College of Medicine
Executive Council, 1960: GEORGE A. WOLF, Jr. . University of Vermont College of Medicine
Executive Council, 1959: GORDON H. SCOTT . . . Wayne State University College of Medicine
Executive Council, 1959: MARK R. EVERETT . . . University of Oklahoma School of Medicine

Staff

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Associate Director . . . . . LEE POWERS
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Director of Business Affairs . . . . . JOHN L. CRANER

Division of Research:
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Assistant Director of Research . . . . . CHARLES F. SCHUMACHER
Research Associate . . . . . EDWIN B. HUTCHINS

Division of Operational Studies:
Director of Operational Studies . . . . . LEE POWERS
Assistant Director of Operational Studies . . . . . J. FRANK WHITING

Journal of Medical Education:
Editor . . . . . JOHN Z. BOWERS

Assistant Secretaries . . . . . ROBERT J. GLASER, VERNON E. WILSON, JOHN A. D. COOPER

The Next Ten Years and the Association of American Medical Colleges

WARD DARLEY, M.D.

The nearly 75 years of existence of the Association of American Medical Colleges have witnessed a changeover in medical education from an orientation that was essentially proprietary to one university and academic; from the rather simple concerns of the number of college years required for admission and the number and length of medical courses to the complexities of the modern university medical centers and the myriad of educational, research, and service responsibilities which they embrace.

While it is generally recognized that this has been the result of the combined efforts of the universities, the health professions, private philanthropy, private industry, and our local and federal governments, it cannot be said that this combination of effort has involved any over-all planning or coordination. Yet tremendous achievement has taken place. There has been orderly achievement because of our legal and voluntary regulation of educational and professional practice; quality achievement because of the motivation to exceed the minimal standards required by regulation and because of the inherent desire of the young to exceed the performance of the old. However, beyond this, except for a few notable exceptions, the over-all manner of achievement, the way achievement has been supported and the amount of achievement have largely been the result of expediency and happenstance.

Medicine's effectiveness increases almost by the hour. Translating this effectiveness to a population that is rapidly growing in size and complexity and that depends principally upon the output of only 85 medical schools for its physicians calls for deliberate and intelligent coordination in the setting of goals and also in the effort that should follow.

The many interests that should be concerned with medical education must be educated to recognize the role that each can play in its support and development. Success in this kind of effort will require leadership—leadership that must come from outside the field of medical education as well as from within; leadership that is adequately informed. If this is to happen, it implies the development and availability of information about medical education and the opportunity, through discussion and questioning, to understand its meaning. The medical schools must play the key role in gathering this information and in informing this leadership. They must also play an important role in the coordination of any effort that may result. In accomplishing this task it is necessary that the schools effectively utilize their own organization—the Association of American Medical Colleges.

The developments I have been discussing and the relationship of the A.A.M.C. thereto are not things that should happen or that are about to happen. They are already under way, and I think it would be short-sighted indeed if it was not assumed that this will continue with increasing tempo and breadth of coverage. Those responsible for the work of the Association have been attempting to speed up this process and in so doing, in the interests

of both efficiency and effectiveness, are endeavoring to determine the principles that should apply, and are constantly reviewing the priorities that should pertain.

In these efforts, there are four over-all principles that have been recognized. The first of these is that, since the Association can exercise no authority over any school, agency, or individual, any actual developments in medical education it might encourage must depend upon the educational process. The other principles logically follow. If the educational process is to apply, success will largely depend upon the gathering and development of information and ideas and upon their dissemination, discussion, and understanding. There should be no wasteful duplication of effort. This implies an awareness of the study and information-gathering programs of other agencies so that under appropriate circumstances there can be cooperation and mutual assistance. Finally, only those projects should be undertaken which the schools can do better jointly than singly and which will help each school do the most for itself.

The setting of priorities will always be complicated. In part this is because of competition between the desire to plan deliberately for long-range growth and the all-too-frequent necessity to react to situations that reflect the demands of the moment. The selection of priorities must also carry the realization that an activity that is intended to serve one long-range purpose may wind up serving or adding others, and also that an activity that may be initiated to meet a limited or short-term need can evolve into one of considerable long-range importance.

A quick look at the most important of the Association's present activities emphasizes these points very well:

1. *The Journal of Medical Education*—originally the Journal of the Association of American Medical Colleges, once a quarterly, now a monthly journal—and its growing importance as a medium of communication between medical faculties and others who have reason to be interested in medical education.

2. The old Professional Aptitude Test and its development into the prsent MCAT program and the complex of study, research and service activities that have grown up about it.

3. The teaching institutes and the body of information and the philosophies and concepts of education to which they have been contributing.

4. The gradual growth of the Annual Meeting into a mechanism that permits those from secondary and general higher education, the medical, hospital, and other health professions, industry, government, foundations, health associations and others to meet with medical educators and take part in discussions important to the development of medical education.

5. The growth of the old medical school inspection to the modern visitation and consultation program of the AMA–AAMC Liaison Committee on Medical Education.

6. The development of the present program of Medical Education for National Defense out of the original activities of the Committee on National Emergency Planning.

7. The evolution of the National Intern Matching Program out of the frustrations of the National Interassociation Committee on Internships.

8. The program of operational studies that is now rapidly producing information and services needed to provide the better financial and administrative understanding of our medical schools.

Some of these are examples of activities that were deliberately set up as long-range

goals, others have developed as permanent and worth-while activities out of measures that were originally geared to meet the demands of expediency, and others slowly evolved from one thing into another. All have been modified in response to changing conditions, needs, and opportunities.

Time does not permit a consideration of past activities that for one reason or another were initiated and dropped. But it is inevitable that this has happened, no doubt because some served their purpose, some missed their goal, and with others the goal either shifted or disappeared. It is inevitable that unexpected demands will call for activity with the short-range goal. The Association's chief concern must be that the accumulation of response to this kind of demand does not interfere with the progress that can only come from the fruition of carefully laid, long-range plans.

As the Association looks to the next 10 years, the principal consideration must be limited to those priorities that have significance to the ultimate destiny of the Association—the improvement and advancement of medical education. *The most important needs here center around the strengthening of the elements of the educational process itself—the learning of students and the teaching of teachers*—and also around the facilities and financing necessary if the educational process is to be properly nurtured. If all of this is to materialize, the most important prerequisites are the data and information that will permit the leadership from both within and without the field of medical education to develop the understanding, planning, and the moral and financial support necessary to the results that are needed.

The Research Division of the Association is conducting studies and services that have to do with the strengthening of the elements of the educational process, particularly those that relate to the intellectual characteristics which exist and are needed in students. The Division is also in the process of studying the nonintellectual characteristics of students, with the ultimate view that both faculty and students can be led to identify factors in this area that will be of importance to success in medical school, the internship, residency, and professional practice. In the course of these studies, research, some of it basic to theoretical and methodological advance in psychological measurement and, hence, essential to continuing progress, is also under way. The report of the Director of Research and of the Committee on Research and Education, which will be found on page 603 of the minutes of this meeting, provides further elaboration of the important work of the Association's Division of Research.

Now the teacher is just as essential to the learning process as the student. It is therefore important that work is planned for the study of the intellectual and nonintellectual characteristics of teachers and the manner in which these characteristics, along with those of the students, can be merged into the most effective teaching-learning relationship possible. That this is possible is in part apparent from the fact that activities touching upon this type of investigation have already been undertaken, and also in part because, from now on, present-day students, about whom so much is already known, will be moving into our medical faculties. This will permit additions to a body of knowledge already at hand and, more than this, the study of individuals already conditioned to playing a subject role in this kind of research.

Now, good learning and teaching cannot exist in a vacuum. Educational, clinical, and research facilities, together with their animate and inanimate contents, their proper administration, and also their adequate and stable financing, are utterly necessary. There is no school in which the conditions for teaching and learning are completely satisfied. It

may be true that things are better in some than in others, but in every school serious inadequacies in one or more respects exist. The data and information necessary to the understanding and long-range improvement of these conditions are just now being developed. Since the nature of these studies and the reasons for their importance have just been described in a recent issue of the *Journal of Medical Education** and are also elaborated in the report of the Director of Operational Studies which appears on page 598 of the minutes of this meeting. I will not discuss this point further.

The gathering and elucidation of information and ideas about medical education would fall far short of the mark if there was not proper provision for discussion and communication. The discussion and communication media that are presently of particular importance are the *Journal of Medical Education* and its thoughtful articles, reports, studies, and abstracts of the literature, this Annual Meeting and its growth as a national forum within which all of those interested in medical education can gather, and the Teaching Institutes. These Institutes deserve particular emphasis, not only because they provide for a national faculty meeting, but also because of the data-gathering and collation which they involve. Over the years this has resulted in a body of knowledge that is now proving invaluable to the discussions that are taking place and the understandings that are developing in and about medical education.

The dissemination, discussion, and application of information relative to the structure and function of medical education must be much more extensive than is presently the case. The Association must constantly improve its position of communication with the many publics that are of importance to medical education. Of particular importance here are university and medical school administrators and faculties and those elements in our society that must provide for medical education's financial and moral support—the medical profession, private industry, private philanthropy, and all levels of government. A perusal of the minutes of this meeting (particularly note pages 592, 627, and 629) will reveal how the opportunities for approaching these publics, especially the medical profession, hospital administrators, and the leaders of industry, are rapidly developing.

Of all of the publics important to medical education, I want to discuss the need for the Association to increasingly involve the group that must carry the ultimate responsibility for strengthening the educational process itself—the administrators and faculties of our medical schools. What is particularly needed here is for each school to plan study activity in which its own data and information will be compared to the national average. In order for such study to have meaning in terms of perspective and depth, it is essential that the acquisition, interpretation, and application of knowledge about medical education become the personal concern of the rank and file of the faculties of our schools of medicine as well as of their administrators. Given the funds and staff, the Association can do much to assist in this process. The staff has much of the information that will be needed, knows where it can be obtained or, upon occasion, can do the research necessary to fill in significant gaps. The Executive Council is hopeful that the Association can accelerate this kind of development. Some of this kind of service is already being rendered, but if this is to increase —and as information increases, so will the needs for this kind of service—it will be mandatory that funds and professional and technical staff increase proportionately.

* Ward Darley, Studies and Research in Medical Education: Their Timeliness and Importance. *Journal of Medical Education*, 32:(7) 625–30, 1959.

There are two other responsibilities confronting the Association that are growing out of the pressures of immediate need.

The approval of the report of the Committee on International Relations (see p. 616 of the minutes of this meeting) now authorizes the seeking of funds that will permit the appointment of a staff that can develop information and coordination that will assist both governmental and nongovernmental agencies in the recruitment and training of the teaching and research personnel that is so badly needed abroad. The recommendation also includes authorization to follow through with the satisfaction of other international needs that may seem relevant and important.

The other pressure of need to which the Association must respond has to do with a more effective means of keeping the viewpoints of our schools of medicine, both collectively and individually, before those units of the Federal government that have reason to be interested in medical education and its necessarily related research and service. The Association's past method of dealing with the Federal government upon a piecemeal and *ad hoc* basis will not keep pace with developments as they have recently been taking place. It is to the best interests of both medical education and the general welfare that a nonpolitical method of continuing communication and consultation with the Federal government be established and at the same time that the deans come together as often as necessary so that they can give the mutual concerns of medical education and government more adequate and timely consideration. It is well that the Association has made the decision necessary to this type of approach (see p. 616 of the minutes of this meeting).

With medicine and medical education facing a time of rapid change, it is inevitable that the Association will need to consider expanding its activities and influence in ways and directions that cannot be anticipated in this short report. The committee reports that appear in the minutes of this meeting will provide a good idea of the scope of the Association's present activities. There is much in these reports that will prove to be significant handwriting upon the wall.

As I have discussed the need to bring the Association's program of information-gathering, discussion, and understanding closer to the level of the schools, I have made frequent reference to the matter of staff and funds. As the Association's responsibilities are projected into the years ahead, the question of Association support must be kept in mind—and this in terms of income that will insure stability and continuity. In the past, as presently, generous grants to the Association have spelled the difference between immobility and progress. Abbott, China Medical Board, Commonwealth, Kellogg, Macy, Markle, Pfizer, Rockefeller, N.I.H., and Sloan are names that have recurred in the financial reports of the Association time and time again. Beginning with this meeting the names of Smith, Kline & French and Squibb will be added to the list.

In the future, more of the hard core of the financial support for the Association must come from its member schools and faculties. There are presently some 2000 of our faculty people who hold individual memberships in the Association. This could be many thousands more. I recognize that this kind of membership can only grow as our faculties become personally involved in educational and creative activities that are stimulated by the work of the Association. There should be no problem here, because, if the Association is to justify its existence by increasing the stature of medical education, it will be because of such involvement. Here again I come back to my original thesis: namely, that if the Association is to succeed in its mission, it will be because of its success in the gathering of information

and ideas and in their dissemination, discussion, and understanding. It is the medical faculties that will constitute the basic units in the success of this venture, and it is my belief that, if the activities of the Association can contribute to an increase in faculty knowledge about medical education, the individual membership will take on sufficient meaning to insure the Association's financial stability. In anticipation of this, the Executive Council, even though present financial reserves are small, is not faltering in the support of efforts to strengthen this nation's system of medical education. The rapid passage of time and the growing pressures of need permit nothing less.

Meeting of Institutional Membership

Palmer House, Chicago, Illinois
February 7, 1959

All institutional members were present when the meeting was called to order by President John McK. Mitchell at 2:00 P.M.

Dr. Mitchell outlined the growth of the A.A.M.C. as to staff, budget, activities, and responsibilities, with particular emphasis upon recent developments such as those concerned with research, the Liaison Committee on Medical Education, MEND, and particularly the recent liaison meetings between the Pharmaceutical Manufacturers Association and between the University Presidents, the A.A.M.C. Executive Council and A.M.A. Board of Trustees and Council on Medical Education and Hospitals. He stressed the increase in the amount of work and responsibility that must now be carried by the Executive Council and hence the need for more than one business meeting a year of the institutional membership.

Dr. Ward Darley then gave a report which represented a considerable expansion of the brief statement he made at the Philadelphia meeting. The report centered around the fact of a recent grant of $500,000 over a 5-year period from the W. K. Kellogg Foundation to finance the operational studies needed if the structure and function of medical education were to be better understood. (This report was published under the title "Studies and Research in Medical Education, Their Timeliness and Importance," *Journal of Medical Education*, Vol. 34:No. 7, pp. 625–30, July, 1959).

Following the Executive Director's report, considerable discussion centered around the question whether the many agencies interested in medical education would be willing to accept the result of studies carried out by the Association in lieu of doing their own. It was pointed out that the Executive Director believed this type of activity would be welcomed—also that the Association, by virtue of the resolution regarding questionnaires passed at the Philadelphia meeting, gives the Executive Council the authority to keep the questionnaire situation under reasonable control.

There was also discussion of the difficulties which confront many schools because of the shortage of funds for personnel to do the institutional research necessary to satisfactory participation in operational studies. Finally, in the reporting of such studies, the need to preserve institutional anonymity was emphasized.

Dr. Mitchell presented the resolution developed by the Executive Council favoring the part which the national voluntary health agencies had played in financing medical research and research training.

The resolution as proposed follows:

Resolution by the Executive Council of the Association of American Medical Colleges in recognition of the valuable contribution of the major voluntary health agencies.

Whereas, the advancement of medical knowledge is a major responsibility of medical schools, and

Whereas, the major national voluntary health agencies have provided valuable and intelligent

assistance to medical schools through grants for basic research and long-term support of research personnel, and

Whereas, there is continuing and increasing need for this type of nongovernmental support provided by the national voluntary agencies, and

Whereas, most of the major national voluntary health agencies have recognized the necessity for increasing the allowance for the indirect costs of research to a more adequate level, therefore

Be it resolved that the Association of American Medical Colleges express its appreciation to the major voluntary health agencies for the invaluable contributions they are making, particularly toward the support of basic research, fellowships, scholarships, and long-term research personnel support, and wishes to express its concern about any activities which would in any way jeopardize or interfere with their support of medical education and research.

A motion to approve the resolution was made and seconded. After considerable discussion, it was moved and seconded to amend the resolution to strike the last phrase in the last paragraph, "and wishes to express its concern about any activities which would in any way jeopardize or interfere with their support of medical education and research." This amendment was approved by a majority voice vote, following which the original resolution as amended was passed by a majority voice vote.

Dr. George Armstrong reported for the Committee on Financing Medical Education.

Upon Dr. Armstrong's motion, followed by a second, it was voted to re-affirm the resolution favoring federal matching funds for construction as it was originally passed at the Atlantic City meeting in 1957. The text of this resolution follows:

Whereas, it is generally recognized that the physical facilities for housing the educational programs of many of our medical schools are in great need of expansion and modernization beyond the present economic resources of these schools themselves, and

Whereas, several members of the present Congress are sponsoring legislation designed to aid these medical schools in their needs, and

Whereas, we have been led to believe that some members of the Congress are not convinced that the proposed legislation has the interest of the entire membership of the Association of American Medical Colleges in spite of diligent efforts of the officers of this Association and its Committee on Financing Medical Education in surveying the needs of the individual member schools and in transmitting information regarding these needs to congressional committees, therefore

"Be it resolved that the membership of the Association of American Medical Colleges in its 68th Annual Meeting go on official record as being in complete accord with the principle of Federal financial assistance in the construction of new, and the expansion and modernization of existing, facilities for medical education in our medical schools.

Be it further resolved that a report of this action be transmitted to each member of the Congress.

Upon Dr. Armstrong's motion, properly seconded, the following resolution regarding full reimbursement for research and training programs and projects financed by the Federal Government was passed:

Whereas, the United States Public Health Service and many of its subdivisions, particularly the National Institutes of Health, have rapidly increased their support of medical research and research training, and

Whereas, the dollar volume of this research and training has nearly reached 100 million dollars for the year 1958–59, and

Whereas, only 15 per cent of each grant is allowed for the indirect costs thereof, and

Whereas, numerous studies have shown that the indirect cost is actually far in excess of this allowance, and

Whereas, this difference must be made up from funds which otherwise would support programs in education, therefore

Be it resolved that the medical schools of the United States, which comprise the institutional

membership of the Association of American Medical Colleges, request the United States Congress to require that all Federal agencies that support medical research provide for the full costs thereof.

In the course of the discussion regarding this resolution, Dr. Mitchell announced that word had just been received to the effect that the American Cancer Society had authorized an increase in the indirect cost allowance of from 15 to 25 per cent. This would add close to 3/4 million dollars per year to the earned income of American Cancer Society grantees. Dr. Mitchell also recalled the fact that full reimbursement has been the policy of the National Foundation (for Infantile Paralysis) for several years.

Upon Dr. Armstrong's motion, properly seconded, it was voted to request the Congress to restore the 10 million dollar cut in appropriation for research facilities as proposed in the President's budget.

Dr. Armstrong then discussed the Hill-Burton Hospital Act, pointing out that as it presently stands, except for notable exceptions, it has not benefited medical school-owned or -affiliated hospitals either for new construction or for remodeling. He pointed out that the American Hospital Association is seeking to have the Act amended so that urban hospitals may be able to obtain funds at least for the modernization of existing plants. While no vote was taken, Dr. Mitchell stated that the Executive Director would look into the matter of the Association's lending support to an amendment that would make it possible for medical school owned or affiliated hospitals to derive more benefit from the Hill-Burton Act than has been the case in the past.

Dr. Mitchell presented a resolution as it had been prepared by the Executive Council which would provide for a Medical School-Teaching Hospital Section and also a standing Committee on Medical School-Teaching Hospital Relationships.

Since medical school-hospital relationships represent a very important administrative, organizational and teaching area in medical education, the formation of a Medical School–Teaching Hospital Section of the A.A.M.C. is hereby authorized.

At the same time the creation of a standing committee upon Medical School-Teaching Hospital Relationships is authorized, the members of which are to be appointed by the Executive Council, and among others, said appointees to include the three major officers of the Section.

The Section meetings shall be financed by the Section and shall be in conjunction with but not in conflict with the Annual Meeting of the Association. The Section is to develop its own meeting program, may elect section officers at its discretion and may develop recommendations or resolutions which it may direct to either the Committee on Medical School-Teaching Hospital Relationships or to the Executive Council.

The Committee on Medical School-Teaching Hospital Relationships, in turn, may develop recommendations or resolutions which it may direct to either the Medical School-Teaching Hospital Section or the Executive Council, and as with other standing committees of the Association, it will render an annual report to the Association.

The Executive Council, in its turn, may develop or refer recommendations, resolutions or reports to the Medical School-Teaching Hospital Section, to the Committee on Medical School-Teaching Hospital Relationships or to the institutional membership of the Association.

Both the Medical School-Teaching Hospital Section and the Committee on Medical School-Teaching Hospital Relationships are the instruments of the Association, and either or both may be dissolved by the Association at any time. In no event will either the Medical School-Teaching Hospital Section or the Committee on Medical School-Teaching Hospital Relationships attempt to establish Association policy. The procedures herein described, however, should make it possible for policy recommendations and considerations to originate with either the Section or the Committee and to reach the Executive Council or the institutional membership without restraint or delay.

Following motion and second to approve the resolution, there was very considerable discussion, the sense of most of which centered around the following questions:

Would not regional meetings of medical school and hospital administrators, as presently occur, take the place of a larger, more central organizational set up? Is there a need for a national as well as for these regional forums? Should the Association sponsor or encourage both regional and national forums?

Is the Association becoming too large as to size and too complicated as to organization? Can the Association assume a position of leadership in the constantly broadening field of medical education without becoming too large and complicated?

Will the activity implied in the resolution help or impede the problems of communication as between the dean, the hospital administration, and the president of the university or the governing board? Since the teaching hospital is an intimate part of the medical school, in fact is the medical school, does not the resolution imply that this fact is no longer to be recognized? Since the relationships over the country between medical schools and teaching hospitals vary from the extreme of complete medical school ownership and control to no ownership and very loose or even no control, might not the implications of this resolution pave the way for a better solution to those situations that may be less favorable to medical education?

At the close of discussion, the question was called. The motion to approve the resolution was carried by a majority voice vote.

Dr. Mitchell announced two A.M.A. appointments, both of great importance to the medical schools: Dr. Edward Turner, Director of the newly-created Division of Scientific Activities, and Dr. Walter Wiggins, to replace Dr. Turner as Secretary of the Council on Medical Education and Hospitals.

Meeting of the Institutional Membership

Edgewater Beach Hotel, Chicago, Illinois
November 1, 1959

The meeting convened at 2:00 P.M. in the Ballroom of the Edgewater Beach Hotel, Chicago, Illinois, with Dr. John McK. Mitchell, President, presiding.

Dr. Mitchell explained that the session was a relatively new development which will be continued in hopes of giving the deans a chance to discuss on a relatively informal basis certain problems that are going to be facing them each year in the months, even weeks, ahead. The more formal committee presentations would be held for the business meeting on Wednesday morning, November 4.

Dr. Richard H. Young, the secretary, called the roll.

The first order of business was approval of the minutes of the meeting held in Chicago in February, 1959.

The following changes in the By-laws, as per the necessary 30 days' legal notice, were approved, Section V being changed to increase the terms of the secretary and treasurer from 1 to 3 years in order to give the continuity which the nature of such offices require. The revised Section V reads as follows:

Section V. Officers. The officers shall be a president, a president-elect, a past president, a vice-president, an executive director, a secretary, and treasurer.

The president elect and vice president shall be elected for 1-year terms at the annual meeting of members, the president-elect to become president upon his installation in the course of the annual meeting a year after he has been elected. The secretary and treasurer shall be elected for a three-year term. Any officer may be removed by the members whenever they deem it to be in the best interest of the Association.

The motion was approved unanimously.

It was moved that the Articles of Incorporation and By-laws as amended to date be approved *in toto* and republished. The motion was seconded and unanimously approved. (Note: The Articles of Incorporation and By-laws as per this authorization, including a by-law change authorized January 9, 1960. See page 632 of this report.)

Dr. Boisfeuillet Jones, Chairman of the Consultants on Medical Education for the Senate Appropriations Committee, delivered the following about the work his committee is undertaking:

Dr. Mitchell, Ladies and Gentlemen of the Association: When the Congress appropriated money for the Public Health Service this past June, the appropriation for the medical research activities, principally through NIH, was increased from about $294 million to $400 million, a 36 per cent increase in one year. When this action was taken, the Senate Appropriations Committee likewise passed a resolution asking for the establishment of a Committee of Consultants on Medical Research to advise the Appropriations Committee on the adequacy and effectiveness of the medical research program as supported by Federal appropriations.

Several weeks later, about 8 to be exact, the President in approving the Appropriations Act

issued a 2-page statement taking exception to this rather large increase at one time in Federal support of medical research. His concern was expressed somewhat more concisely than the resolution of the Senate in that he pointed out three principal areas about which he had question. One was whether or not the large increase and the rapid growth of the medical research programs would tend to overtax the review mechanisms to the point that the quality of medical research may be watered down. He was concerned likewise as to whether or not this very large emphasis on medical research would tend to drain from medical teaching and medical practice doctors who might more appropriately be in these other two fields on a relative basis. The third point was whether or not these heavy appropriations of the Federal government might tend to dry up the non-Federal source of support for medical research.

These two actions were directed toward the same question, that is, the appropriate responsibility of the Federal government in the field of medical research. Now there have been a good many studies and surveys made. I think probably no group in the country knows this better than the deans of medical schools. We have been surveyed and questioned and consulted to almost intolerable extent. So one wonders about this new committee and what it is supposed to do and what it will actually try to do.

The membership of this group was selected by the Senate Subcommittee on Appropriations for Labor, Health, Education and Welfare. I do not know how these selections were made. We have been told that the thirteen members of the committee did approve the appointment.

Other than myself, there is one other lay member of this group—General David Sarnoff, R.C.A. The other nine members are scientists who have had considerable experience in medical teaching, medical research and/or medical practice. Two are directly engaged in the general field of medical education as administrators, Dr. Edward Dempsey, Dean of the Washington University School of Medicine and Dr. Harry Lyons, Dean of the School of Dentistry at the Medical College of Virginia. The other seven members include Dr. Walter Wilson, biologist from Brown University; Dr. Sidney Farber of the Children's Cancer Research Foundation, the Harvard faculty, a pathologist in Boston; Dr. Cornelius Traeger, neurologist from Cornell Universty; Dr. Alfred Blalock, surgeon from Johns Hopkins University; Dr. Michael De Bakey of Baylor University; Dr. Leo Rigler, radiologist, Executive Director of the Cedars of Lebanon Hospital in Los Angeles; and Dr. Cecil L. Wittson, psychiatrist from the University of Nebraska. The staff director is Dr. Margaret H. Sloan who is on leave for this purpose from the National Research Council of the National Academy of Sciences.

This group of eleven people and staff director are charged with the responsibility of providing an advisory report to the Senate Appropriations Committee on a program of tremendous importance to the medical profession broadly interpreted to the health of this nation and more specifically, to the program of research and their impact on medical education and the health programs.

I think perhaps at least one member of this group, and I am sure others, probably would have been a little more hesitant to accept the assignment had there been time enough to really understand the mission that was given to the group. Among other things, the Committee has asked for a report by February of 1960. They are interested, however, in having more than just a superficial job done and are not going to be too insistent on this deadline if more time would be more helpful in achieving a substantial result.

This committee has met three or four times since its organization just a few weeks ago. It has only a limited number of meetings between now and February 1 to devote to discussions and to seek information The committee feels that it does not have the time to undertake any new programs of data-seeking. It also recognizes the fact that, since it is composed of scientists who have had a hand in one way or another in the research effort sponsored by the Federal government, it will need to document to the maximum extent possible such judgments as it may reach.

The group is quite anxious to have the help of those groups and individuals who may contribute to its judgment.

The Association of American Medical Colleges and the American Medical Association itself represent a source of information of tremendous importance to the work of this committee. We are very gratified that your Executive Council, through the good offices of Doctors Mitchell and Darley, were able to spend two hours this morning discussing the work of this committee. We are pleased that they gave us this opportunity to have just a word with you as a group this afternoon.

We expect in the weeks ahead to have further contact with your Council and its representatives, and we would like to avoid actually a questionnaire approach to the deans of the schools of medicine. However, we are extremely anxious to have the benefit of such questions and such comments as the deans and university officers may be willing to give in the judgments related to this job. Perhaps this can be done informally through a simple exchange of letters, the mechanics of which we will agree on subsequently, but we hope if your Council agrees that we can make an informal opinion survey of this sort, that you will respond by simple, informal letter. Meanwhile, there are three representatives of this committee who are here now and will be here at least through Tuesday noon who will welcome the opportunity for individual conversation with any of you who may have comments to make, questions to raise, issues you may wish to see considered.

I think we are pretty well aware of the multitude of questions that need some attention, particularly those relating to the impact of this program on medical education. We have no intention to duplicate the work of the Bayne-Jones Committee or of the Bane Committee or of the twenty medical schools surveyed in the country. We think there are enough data available which, if properly brought together and interpreted toward this particular assignment, this is about as far as the Committee can go.

We do expect to have the opportunity in committee setting to hear representatives of education, both medical and dental and other professions, of voluntary health agencies, of foundations interested in medical research and education, of industry (particularly pharmaceutical industry) that has a stake in medical research, and others as may be indicated.

This is a legislative enterprise. The Committee is appointed by an Act of Congress. The other studies for the most part have been executive in nature. There is complete understanding and agreement, so that there is no difference of approach or attitude at all. Secretary Flemming has already offered the full resources of his organization as has Dr. Burney, the Surgeon General, and Dr. Shannon, Director of the National Institutes of Health.

A great amount of time will be spent with the administrators of the National Institutes of Health, since a review of their programs will be important and constitutes a major part of the function of this Committee.

We are anxious that we try to find together, to the best of our ability, answers to such questions as whether or not there is too much money going into research or too little, whether it ought to be withdrawn or expanded on some sort of schedule, whether there ought to be more freedom by the administrators of the universities and deans to provide for a balanced situation in which medical research can be carried on. The need for consideration of the impact on the manpower problem has already been considered in relation to other sources of support. There are a myriad of questions, many of which have been suggested, many of which are already familiar to this group in other contexts.

President Mitchell thanked Dr. Jones and assured him of the Association's cooperation.

Though the next item on the agenda concerned the setting up of a Spring meeting of deans each year, President Mitchell stated that, because of the rapid development of recent events which are important to the deans, this matter would be postponed for later consideration. He then introduced Dr. George Amrstrong, chairman of the Committee on Financing Medical Education, who gave the following report of his committee concerning the Washington scene:

Your Committee considered four items that are in a discussion stage and to which subjects certain legislative material has already been thrown into the Congressional hopper, much of it without action by committee to date. Others are merely in the stage where they may be thrown into the hoppers within the coming few months. These were, as we saw them, with no intent as to priority, the so-called institutional research grants; the creation of specialized research facilities and regional research resources; Federal aid to medical educational construction; and the ever recurring subject of full cost of medical research.

There was a feeling on the part of the Committee that those in Washington who are guiding the destinies of some of these programs have no organized means at the moment of discovering the thinking of the institutional members of this Association. It was recalled by Dr. Moore that

at one time a situation somewhat analogous existed in the Veterans Administration and that there was created, we think with a certain amount of success, a committee of the Association which is known as the Committee on Veterans Administration-Medical School Relationships.

There is a great deal of contact, if you will, between the director of the N.I.H. and his staff and those who are responsible for the research programs in many instances at our various institutions. We have the feeling that there is a dearth of contact between the director of N.I.H. with those of us who are responsible for policies within our institutions. Furthermore, attempts at the moment to obtain the views of us who are the makers and the "carry-outers" of policies in our medical schools are too often obtained from individuals or from groups who carry little direct responsibility for the nation's programs in medical education. Therefore, we have to present to you two resolutions; the first is as follows:

"WHEREAS there are many proposals that will shortly be presented to Congress that will have a major impact on the conduct of medical education and medical schools in the future, and

"WHEREAS it is important that these proposals be carefully studied by the medical schools and that the considered and collective opinion of the medical schools through action of the AAMC be available to the Congress and to the public, therefore be it

"RESOLVED: That the Executive Council be instructed to study these proposals and make recommendations to the member schools for their consideration and action at a special meeting of the institutional members of the AAMC to be called, if possible, before the opening of the next sessions of Congress."

The resolution was unanimously accepted.

Dr. Armstrong then read the second resolution:

WHEREAS the director of the N.I.H. has asked the best means for providing for most effective respresentation of institutional points of view in the development and conduct of N.I.H. programs; therefore be it

RESOLVED: That a committee on N.I.H. relations with medical schools be appointed by the A.A.M.C. to be the liaison between the institutional members of the A.A.M.C. and the N.I.H.

The second resolution was also passed. (NOTE: At a later meeting on November 4, 1959, the above two resolutions were consolidated into one and also somewhat amended. See p. 616 of this report.)

The meeting adjourned at 3:15 P.M.

The Seventieth Annual Business Meeting

Edgewater Beach Hotel, Chicago, Illinois
Wednesday, November 4, 1959

ROLL CALL

All Institutional Members were represented.

APPROVAL OF MINUTES OF 69TH ANNUAL MEETING

The Minutes of the 69th Annual Meeting, October 13, 14, 15, 1958, Hotel Sheraton, Philadelphia, Pa., were approved as published.

FOREIGN VISITORS

Jacob Chandy, Christian Medical College, Vellore, India.
John Ellis, Association for the Study of Medical Education, Great Britain.
Nestor Girala, Asuncion University, Paraguay (Fellow, Cornell).
Yong Chol Han, Seoul National University Medical College, Korea.
Dong Ik Kim, Seoul National University Medical College, Korea.
Myung Sun Kim, Yon Sei University Medical College, Seoul, Korea.
John Gibb McCrie, University of Sheffield Faculty of Medicine, England.
Choo Wan Myung, Seoul National University Medical College, Korea.
Susan Ofori-Atta, Medical Research Institute, Acra, Ghana.
Dr. and Mrs. Rao, Director of Medical Services of the State Andhra, Hyderabad, Prades, India.
Edward Sayers, Medical School, New Zealand.
John Legge Stafford, St. George's Hospital Medical School, London, England.
Naohiko Ueno, Chemo-Sero Therapeutic Research Institute, Kumamoto, Japan.

INDIVIDUAL MEMBERS

A total of 460 new Individual Members were voted into the Association.

SUSTAINING MEMBERS

Two new Sustaining Members were approved: Smith Kline & French Laboratories and the Upjohn Company.

EMERITUS MEMBERS

The following individuals were voted into Emeritus Membership in the Association:
Walter A. Bloedorn, A.M., M.D., Sc.D., Professor Emeritus of Medicine, George Washington University; President, National Board of Medical Examiners; President, Gorgas Memorial Institute

William Eustis Brown, M.P.H., M.D., D.Sc., Former Dean, University of Vermont College of Medicine.

Harold S. Diehl, M.D., Dean Emeritus, University of Minnesota College of Medical Sciences; Senior Vice President for Research and Medical affairs and Deputy Executive Vice President, American Cancer Society, Inc.

Albert C. Furstenberg, M.D., Former Dean, University of Michigan Medical School.

Herman G. Weiskotten, M.D., Sc.D., Dean Emeritus, State University of New York Upstate Medical Center, College of Medicine; Former Chairman of the Council on Medical Education and Hospitals, American Medical Association.

William S. McEllroy, M.D., Former Dean, University of Pittsburgh School of Medicine.

William Harvey Perkins, M.D., Sc.D., LL.D., Former Dean of Jefferson Medical College.

Mario Mollari, M.D., Professor Emeritus of Bacteriology and Tropical Medicine, Georgetown University School of Medicine.

REPORT OF THE CHAIRMAN OF THE EXECUTIVE COUNCIL

JOHN MCK. MITCHELL

The report of the Chairman of the Executive Council was limited to the most important of the past year's Council actions and to those matters which the Council felt should be referred to vote of the Association.

First, the Supreme Court of the State of Illinois has decided the real property tax exemption suit in favor of the Association. This has been tedious and expensive, but the long-range savings to the Association will make the venture worth while.

Second, the first of a series of discussions between representatives of the A.M.A. Board of Trustees and the Council on Medical Education and Hospitals, the Executive Council of the A.A.M.C., and selected university presidents has taken place. This meeting was mostly concerned with the identification of the major problems presently facing medical education and the possible ways in which these might be amenable to a joint approach.

Third, in February, 1959, representatives of the Association met with the presidents of the Association of American Universities and took part in a very helpful discussion of medical education. It seemed to be the consensus, as evidenced by a letter later received by the Executive Director, that, while representatives of A.A.U. would always be available for discussion and consultation, no formal liaison with the A.A.M.C. was indicated.

Fourth, the Board of Directors of the Pharmaceutical Manufacturers Association and the Executive Council of the A.A.M.C. have now established a standing liaison committee which has held fruitful sessions. The initial result of this committee's work has been the development of the following statement:

Furtherance of Medical Education by the Pharmaceutical Industry

It is desirable that medical education be furthered to the greatest possible degree by the pharmaceutical industry. Such a furtherance is of great importance and in the best interest of the American public and the medical profession. It is essential that efforts of the industry in furthering medical education follow the highest of standards and to that end the following general principles are established by the Pharmaceutical Manufacturers Association and the Association of American Medical Colleges for the guidance of all concerned.

Surveys of medical students of questionnaire or other form made by the industry or members thereof, rarely result in the furtherance of medical education. The Association of American Medical

Colleges is available for consideration of exceptions to this general statement and should be consulted to determine whether an exceptional survey is in keeping with these general principles.

Non-educational entertainment (such as cocktail parties, steak dinners, etc.) does not further medical education and such entertainment should not be requested by students or faculty or suggested by members of the industry.

Awards and prizes. Funds or other awards intended as recognition of a high order of scholarship or of research achievement of students or faculty members are an effective means of furthering medical education. The interest of the recipient is best served through his uninfluenced selection by his medical school and by the omission of photographs or press releases by the donor.

Lectures at institutes of learning, established by members of the pharmaceutical industry constitute a means of bringing special information to medical students and therefore are of value in medical education. *The final choice* of individual speakers should be made by the medical school concerned in the interest of providing the best possible source of information on a specific subject.

Visits to pharmaceutical laboratories constitute a source of medical education which is not available in medical colleges. The visits are therefore considered worth while, but the general principles regarding entertainment (except for necessary meals), printed literature, and drug samples should apply to the occasion of such visits.

The release of information regarding research products prior to their acceptance by the medical profession is not in the best interest of the American public. Such releases are discussed in the "Statement of Principles of Ethical Drug Promotion," adopted by the PMA, May 24, 1958. Because of this general principle, press releases on unestablished drugs should not be made by members of the industry or by medical colleges. In addition, press releases on established drugs when students or faculty members of a medical college are involved, should follow the established practices of the medical college concerned.

Television or radio productions involving medical colleges or research efforts in such colleges should be invariably presented in a way that the greatest possible degree of medical education is obtained from the production. Unnecessary dramatization or other accent of material which does not provide educational information is discouraged and to be avoided.

Printed literature of pharmaceutical manufacturers is frequently of considerable value in medical education. The use of educational literature by students is encouraged, but the interest of the student is best served by its distribution through a qualified official of the medical school concerned.

Drug specimens are an important part of the education of a medical student. However, it is illegal for a student to receive prescription drugs for other than study purposes, which study should be conducted in his formal class sessions. For this reason, prescription drug samples should be made available for use by students only through a qualified official of the medical college concerned.

The above paragraphs cover subjects which are representative of certain specific undesirable practices, although the list is by no means exhaustive. In general, as a basic guiding principle, both the medical educators and the leaders of the pharmaceutical industry can agree that any act, practice, or policy which tends to result in the exploitation of the medical school, educator, or student for commercial or selfish consideration is undesirable. Therefore, there can be no furthering of such acts, practices, or policies by anyone who is truly interested in the future health and strength of medical education.

Additions to or modification of these general principles should result from continuing conference between designated members of the two associations concerned.

This document is intended to serve as a guide to medical schools as they may have occasion to deal with pharmaceutical firms. The statement is subject to change and amendment, and it is hoped and expected that, as questions and suggestions arise, they will be forwarded to the Executive Director so they can be referred to the Liaison Committee. The approval of the statement "Furtherance of Medical Education by the Pharmaceutical Industry" was unanimously voted.

The AAMC–PMA Liaison Committee has also established a sub-committee under the chairmanship of Dr. John E. Deitrick, which is made up of representative medical

school faculty and pharmaceutical medical directors. This committee is to explore and make recommendations regarding any area that might be the mutual concern of medical education and the pharmaceutical industry, particularly such matters as the training of clinical investigators, the integration of medical students into research, the clinical evaluation of new drugs, the development of standards for the evaluation of new drugs and the best means of transmitting information about new drugs to medical students, interns, residents, and faculties.

Fifth, since the last Annual Meeting, new grants for the work of the Association have been received as follows:

Commonwealth Fund—$50,000
In support of 1959 and 1960 Teaching Institutes
Commonwealth Fund—$150,000
For three years' support of the Division of Basic Research
National Institute for Mental Health—$10,000
In support of 1959 Teaching Institute
National Heart Institute—$25,000
In support of 1960 Teaching Institute
Rockefeller Foundation—$1,400
For special meeting of Committee on International Relations
Rockefeller Foundation—$1,500
In support of Journal subscriptions to British medical schools
Smith Kline & French Laboratories—$10,000
In support of the developmental phase of a traveling fellowship program for medical students

In addition to these, it is well to be reminded that other grants made previous to last year's Annual Meeting are still active. These are:

Commonwealth Fund—grants for basic research and Teaching Institutes
W. K. Kellogg Foundation—Support of the study of medical college costs and of the internship and support of the Division of Operational Studies
Josiah Macy, Jr. Foundation—support of the *Journal of Medical Education*
John and Mary R. Markle Foundation—general support of the Association and support of the Resurvey of Pre-professional Education in the Liberal Arts College under the direction of Dr. Aura Severinghaus.

This evidence of confidence in the work of the Association is most welcome and is also most heartening.

Sixth, effective July 1, 1960, the Executive Council has approved the transfer of the MCAT from the Educational Testing Service of Princeton, New Jersey, to the Psychological Corporation of New York. (The reason for this change is the need for test development, the kind of work which the Psychological Corporation is particularly qualified in at this time.) Those individuals in our schools of medicine who are concerned with and who must use the MCAT can rest assured that they will be kept well advised of any developments that may involve changes in the test's administration and interpretation.

Seventh, during the past year much has happened in Washington that is of importance to medical education: (1) the National Defense Education Act has been passed and can be

significant as a source of loan funds to medical students; (2) the research appropriations to the National Institutes of Health have been increased very substantially; (3) the report of "A Study of 20 Medical Schools" was developed by the staff of the NIH with the active help of the AAMC staff and the deans and faculties of the schools involved; (4) as evidenced by the report that has just been released, three deans and the Executive Director have been serving with the Surgeon General's Consultant Group on Medical Education; and (5) a Senate committee, under the chairmanship of Boisfeuillet Jones, is initiating another study aimed at determining the past ten years' impact of the NIH upon medical education and whether the funds now being provided for research and training are adequate to future needs. Dr. Jones spoke before the meeting of this Association on October 31, and his remarks appear in the minutes of that meeting.

Eighth, it is now believed that the work of the Division of Operational Studies is reaching a point where the AAMC staff and officers and the deans and faculties of our medical schools can be of very material assitance to the National Fund for Medical Education and its fund-raising efforts. Dr. Thomas Hunter and the Executive Director will soon be meeting with the Board of Directors of the Fund in order to discuss what more might be done.

Ninth, the Executive Council has noted the death of Dr. Abraham Flexner with deep regret and offers the following resolution for the approval of the Association:

WHEREAS, Dr. Abraham Flexner, A.B., A.M., LL.D., Litt.D., M.D. (hon. University of Berlin, Washington University), has played a most important role in improving this nation's educational and social institutions and practices, and

WHEREAS, as the result of his survey and report "Medical Education in the United States and Canada" Dr. Flexner has made a particularly significant contribution to the progress of medical education in the United States and Canada, even throughout the world, and

WHEREAS, on October 21, 1957, in recognition of these facts, the Association of American Medical Colleges established the Abraham Flexner Award for Distinguished Service to Medical Education, and

WHEKEAS, Dr. Abraham Flexner's death occurred on September 21, 1959,

THEREFORE BE IT RESOLVED that the Association of American Medical Colleges and its member schools and faculties reaffirm their appreciation for the signal service which Dr. Flexner has rendered and record their deep sorrow on the occasion of his death.

This resolution was unanimously adopted by a rising vote.

Tenth, the report of the Chairman of the Executive Council was adopted by unanimous vote.

REPORT OF THE NOMINATING COMMITTEE

NORMAN B. NELSON, *Chairman*

The following group of officers was offered by the Committee:

President-Elect, George N. Aagaard
Vice-President, Donald G. Anderson
Secretary, Richard H. Young
Treasurer, J. Murray Kinsman
Council Member, Robert J. Glaser
Council Member, Robert C. Berson

The report was accepted and the nominees elected by unanimous ballot.

REPORT OF THE SECRETARY

RICHARD H. YOUNG

The fundamental reponsibility of the Secretary is to schedule and supervise surveys of the individual medical schools. This, of course, is done in conjunction with the Secretary of the Council on Medical Education and Hospitals of the American Medical Association. Reports of the surveys have been reviewed by the individual Council members of the A.A.M.C. and the A.M.A. and by the Liaison Committee between the two Associations.

The following schools were surveyed during the 1958–59 academic year:

University of Ottawa Faculty of Medicine
Jefferson Medical College
Yale University School of Medicine
Vanderbilt University School of Medicine
Bowman Gray School of Medicine
University of Colorado School of Medicine
Columbia University College of Physicians and Surgeons
Stritch School of Medicine of Loyola University
Albert Einstein Medical College
University of Kansas School of Medicine
Washington University School of Medicine
Creighton University School of Medicine

The visitation schedule for 1959–60 is as follows:

University of Alberta Faculty of Medicine
University of Western Ontario Faculty of Medicine
St. Louis University School of Medicine
Marquette University School of Medicine
University of Rochester School of Medicine and Dentistry
Seton Hall College of Medicine and Dentistry
Baylor University College of Medicine
University of Puerto Rico School of Medicine
University of Florida College of Medicine
University of Cincinnati College of Medicine
University of Mississippi School of Medicine
New York University College of Medicine
State University of Iowa College of Medicine
Dartmouth Medical School
Georgetown University School of Medicine

The appointment of the following Assistant Secretaries was approved by the Executive Council:

Robert J. Glaser (University of Colorado)
John A. D. Cooper (Northwestern University)
Robert R. Wagner (Johns Hopkins University)
James R. Schofield (Baylor University)
Samuel A. Trufant (University of Cincinnati)
Robert G. Page (University of Chicago)

The report of the Secretary was accepted.

REPORT OF THE TREASURER, 1958–1959

J. MURRAY KINSMAN

The following summary of the past year's financial operations of the Association is based on an audit by the firm of Ernst and Ernst.

Statements of Income and Expense and Equity
Association of American Medical Colleges
Year ended June 30, 1959

STATEMENT OF INCOME AND EXPENSE

	Total	Restricted for Special Purposes	Invested in Land and Building	Available for General Purposes
Income:				
Dues	$115,368.15			$115,368.15
Grants	326,698.55	$276,698.55		50,000.00
Services	126,173.03			126,173.03
Publications	60,541.21			60,541.21
Interest	3,921.06			3,921.06
Total Income:	$632,702.00	$276,698.55		$356,003.45
Expenses:				
Salaries	$306,459.28	$ 76,245.59		$230,213.69
Other expenses	322,009.18	125,018.31		196,990.87
Transfer in-out*		32,060.00		32,060.00*
Total Expenses:	$628,468.46	$233,323.90		$395,144.56
Income in Excess of Expenses:	$ 4,233.54	$ 43,374.65		($ 39,141.11)

STATEMENT OF EQUITY

Balance at July 1, 1958	$582,794.45	$178,239.22	$287,427.79	$117,127.44
Adjustments arising from changes in accounting practices—Note B	20,754.48	6,916.40*	9,428.46	18,242.42
Adjusted balance at July 1, 1958	$603,548.93	$171,322.82	$296,856.25	$135,369.86
Income in excess of expenses	4,233.54	43,374.65		(39,141.11)
Balance at June 30, 1959	$607,782.47	$214,697.47	$296,856.25	$ 96,228.75

( ) Indicates expenses in excess of income.
* Indicates deduction.

Balance Sheet
Association of American Medical Colleges
June 30, 1959

ASSETS

Cash		$130,284.78
United States Treasury notes, 3½%, due November 15, 1959—at cost and accrued interest (approximately market)		130,690.63
Accounts receivable		61,808.16
Loan receivable—Educational Council for Foreign Medical Graduates		8,333.33
Accounts with employees		3,524.70
Deposit and prepaid expenses		1,139.23
Land and building—at cost—Note A:		
Land improvements	$ 9,002.36	
Building	287,853.89	296,856.25
		$632,637.08

LIABILITIES AND EQUITY

Liabilities:		
Accounts payable		$ 19,844.75
Taxes withheld from payrolls		4,607.74
Payroll taxes		402.12
		$ 24,854.61
Equity:		
Restricted for special purposes	$214,697.47	
Invested in land and building	296,856.25	
Available for general purposes	96,228.75	607,782.47
		$632,637.08

Notes to Financial Statements
Association of American Medical Colleges
June 30, 1959

Note A—Land Improvements and Building:

The national headquarters of the Association are located on land donated by Northwestern University. Under terms of the grant, the land must be used as the site of the national headquarters and may not be sold or mortgaged without the consent of the University.

Note B—Changes in Accounting Practices:

In 1959, the Association adopted certain changes in accounting practices which were made to more appropriately match income with related expenses. The changes relate to the following matters:

a) Amounts receivable (but not including voluntary grants) and amounts payable by the Association were included in income and expense in the period to which they relate.

b) Depreciation was not provided for the year and amounts previously provided have been restored to equity.

c) Equity restricted for special purposes includes only amounts on which limitations have been established by grantors, and does not include special appropriations of the Executive Council.

Adjustments resulting from the afore-mentioned changes in accounting practices applicable to the period prior to July 1, 1958, resulted in an increase of $20,754.48 in equity at that date, and if the changes had not been adopted the equity at June 30, 1959, would have been approximately $60,000 less.

Note C—Grants Receivable:

It is the practice of the Association to include grants in income when they are received. At June 30, 1959, the Association had been notified by several grantors that it may expect to receive $679,000.00 for special purposes and $50,000.00 for general purposes within the next four years.

REPORT OF THE DIRECTOR OF THE DIVISION OF OPERATIONAL STUDIES

LEE POWERS

By virtue of a grant from the Kellogg Foundation of $500,000 for a period of 5 years, the Division of Operational Studies of the Association of American Medical Colleges was established in March 1959.* Its function involves the detailed study of four essential components of medical education—faculties, facilities, financing, and students—and the assemblance of factual data into long-range plans and proposals to meet the pressures of a rapidly growing population. Such pressures pertain to increasing the future enrollments of medical students so that the present physician-population ratio may be maintained; the expansion of existing teaching facilities and the building of new ones so that more students can be accommodated; and the continuing supply of adequately trained teaching and research personnel if existing schools are to be strengthened and new schools are to be built.

Staff.—Dr. Lee Powers, Associate Director of the Association of American Medical

* Two studies already in progress at that time and each separately financed by the Kellogg Foundation were transferred to the jurisdiction of the Division of Operational Studies. They are the "Pilot Study of Medical College Financing" and the "Internship Study" and are discussed more fully in the text under Sections 5 and 6, respectively.

Colleges was named Director of Studies for the Division in March of 1959. Additions to the staff include: J. Frank Whiting, Ph.D., Assistant Director of Studies; Mrs. Katherine Oppermann, B.S., Research Assistant; Dr. Richard H. Saunders, Director of the Internship Study; Mr. Augustus J. Carroll, Cost Study Director (part-time); and Mrs. Rita Kaz, Secretary to the Division. Mr. John Craner, Accountant, will become a part-time staff member in November, 1959.

Steering Committee.—A Steering Committee, advisory to the staff of the Division in establishing broad policies and programs as well as in setting up work priorities, was appointed in March of 1959. The members are: Dr. Thomas B. Turner, Dr. John A. D. Cooper, Dr. Robert A. Moore, Dr. William R. Willard, and Dr. Robert C. Berson.

Two meetings of the Steering Committee have been held; the first on April 22, and the second on August 28, 1959. In each instance, several persons from other organizations whose interests center around the work of the Division and who could be helpful in establishing liaison with persons engaged in similar research activity were invited to attend the meetings. They include: Dr. Kenneth M. Endicott, National Institutes of Health; Dr. John L. Caughey, Chairman of the Continuing Group on Student Activities; Dr. Matthew R. Kinde, of the Kellogg Foundation; Dr. Arthur S. Cain, Jr., from the National Academy of Sciences-National Research Council; and Drs. Edward L. Turner and Walter Wiggins, of the American Medical Association.

The first meeting was devoted primarily to a broad discussion of the function of the Division of Operational Studies and to a delineation of study areas which would be most useful and timely. At the second meeting, priorities were set for completing current studies and methodology was discussed.

Activities and Progress Report on Current Operational Studies

To carry out the stated objectives of this Division, which are italicized below, the following studies are currently in progress, as indicated:

1. *A working index and reprint library, sufficiently cross-indexed so that any information, regardless of source, that is pertinent to the objectives of this Division will be readily available.*

Current Status: The working index and reprint library has been completed, including all publications relative to medical education since 1946. Additions to the reprint library are made daily. Titles of volumes in a small but growing library on medical education and the related fields of higher education have been integrated with the working index.

2. *Studies of students: socio-economic backgrounds, "going to school costs," sources and means of financing, amount of indebtedness, scholarships, fellowships and loan funds.*

Current Status: The most significant undertaking in this area of activity has been the questionnaire-survey on the "Financial Problems of Medical Students." In cooperation with the Continuing Group on Student Activities, with Dr. Caughey serving as liaison, a questionnaire was distributed to medical students in the graduating class of 1959. Returns were better than 71% complete. Data from the questionnaire has been partially analyzed. Brief summaries will be reported in "Datagrams" in the November issue of *The Journal of Medical Education*. A more detailed analysis of the information will be reported by the Director of the Division to the Continuing Group at the time of the annual meeting. The total information will be analyzed and prepared for publication at a later date in *The Journal of Medical Education*.

3. *Studies of faculties: educational and professional backgrounds; profile of each medical school faculty as to number, subjects taught: balance as to full-time, part-time, or volunteer;*

distribution of time as to research, patient care, and various teaching and administrative responsibilities; academic deficits in terms of faculty needs. The establishment and maintenance of a central faculty registry so that the above kinds of information can be kept up-to-date.

Current Status: Under the joint sponsorship of the Liaison Committee on Medical Education a questionnaire has been distributed to every faculty member with the rank of instructor or higher scheduled to devote any time during the school year 1959–60 to instruction, research, and/or clinical service in the medical school or its affiliated hospitals.

The information sought in this questionnaire will be utilized to develop continuing studies of the structure and function of our faculties. We know that there are over 40,000 names upon our national faculty list, but we have no knowledge as to the origins and backgrounds of these individuals, how they are distributed as to full-time, part-time, or volunteer status, or as to disciplines or teaching areas. It is important at the moment, for purposes of both local and national planning, that we learn of the military obligation status of each of our faculty. From the long-range standpoint, however, it is time for us to establish a national profile of the structure and function of our faculties so that we can appreciate trends against which our schools, both individually and collectively, can compare themselves and as a consequence, be in a position to appreciate change and then, if necessary, plan for change.

To date, information has been obtained from approximately 30,000 faculty members. Every effort is being made to obtain a complete roster of medical school teaching personnel before publication of the Directory later this year.

4. *Studies of physical facilities: their development and need as of now and the future.*

Current Status: A comprehensive study has been completed of the future construction needs of all U.S. medical schools as well as total past expenditures during the last 10 years. Preliminary data was reported in "Datagrams" appearing in the July and August issues of *The Journal of Medical Education.*

Manuscript of the complete report, including the effect of the construction program on future enrollments in the medical schools, has been submitted for publication in *The Journal of Medical Education* under the title "National Goals for the Construction of Medical School Facilities."

As part of a related activity, an Ad Hoc Committee was appointed to consider the many problems pertaining to planning and developing new medical schools. The Committee met in Evanston on April 21, 1959. Members of the Committee are: Drs. Russell S. Poor, John Z. Bowers, William R. Willard, Ward Darley, Lee Powers, and Mr. A. J. Carroll. Discussion centered about the publication of a brochure containing useful information and guide lines to universities which are considering establishment of new medical schools. Publication of the brochure is anticipated in the near future.

5. *Studies concerned with operational financing and administrative problems of medical education: cost and income analysis according to responsibilities and programs: deficits in terms of financial need: the possibility of new and/or augmented sources of medical school income; medical school-hospital relationships: medical school-university relationships; university-hospital relationships; medical school-hospital-community relationships; medical service plans, the purposes they serve, their present and potential relationship to medical school financing.*

Current Status: Upon establishment of the Division of Operational Studies, the "Pilot Study of Medical College Financing"—already activated, possessed of its own Steering Committee and under the direction of Mr. Augustus J. Carroll—became a divisional responsibility. As such, a progress report, prepared by Mr. Carroll in behalf of his Steering Committee, is here summarized, as follows:

Pilot Study of Medical College Financing.—On June 1, 1958, the A.A.M.C. received a grant of $35,000 from the W. K. Kellogg Foundation for a pilot study of medical college financing. A Steer-

ing Committee was appointed with the following members: Drs. Donald Anderson, Robert C. Berson, John E. Deitrick, William N. Hubbard, Jr., Herman B. Wells, W. Clarke Wescoe, George A. Wolf., Jr., and Ward Darley.

Seven selected medical schools agreed to cooperate in the Pilot Study to develop a method by which each medical college could routinely and periodically analyze its financial affairs and report them in a manner that would permit appropriate and beneficial comparisons with other medical colleges. After tentative forms had been devised, these seven schools cooperated in an extraordinary way by reviewing and testing the several different types to select those best suited to the purposes of the Study. The Pilot Study placed emphasis on the development of a practical, inexpensive system of medical college program cost analysis that could be extended to cover grant funds and hospital expenditures for medical education. Such a program cost analysis will reveal the respective costs of teaching, research and service programs and the extent to which their beneficiaries are paying these costs. It will facilitate sound financial planning and fund raising for the future.

The Pilot Study is almost completed and the methods, forms, and instructions will be ready shortly to start the Across-the-Board Medical College Cost Study. Sample forms, a manual of procedures, and illustrative worksheets covering the tested program cost finding system will be submitted for consideration to the deans through regional meetings. A brief final report of the Pilot Study will include comparative financial information regarding the schools that participated in the Study.

A "Faculty Salary Survey" and the "Faculty Program Analysis" constitute phases one and two of the comprehensive Cost Study. Because of the urgent need of many deans for faculty salary information, top priority has been given to this portion of the Cost Study.

The medical college program cost will be the most important and extensive activity of the Division for the next year.

6. *Studies of the internship in medical school-controlled hospitals as it is related to the last year of medical school, the first year of residency and to the service demands of the hospital.*

Current Status: In June of 1958, a grant of $75,000, extending until the Fall of 1960, was obtained by the Association of American Medical Colleges from the Kellogg Foundation to finance a Study on Internships. Upon establishment of the Division of Operational Studies, this project was transferred to its jurisdiction.

In December 1958, Dr. Richard H. Saunders, Jr., on leave from his position at the University of Rochester, was named Director of the Study. Dr. E. Hugh Luckey, as Chairman of the Committee on Internships, Residencies, and Graduate Medical Education, will report on the Study. As a Division activity, however, a brief progress report, prepared by the Director of the Study, is here summarized, as follows:

Internship Study.—The spring and summer were devoted to working out interviewing techniques and content, the development and pretesting of the Intern Questionnaire, and development of a sample group of hospitals to be studied. Twenty-nine hospitals were selected for the sample on the basis of geographic distribution, type of internship offered, size of hospital, source of financial support of the parent medical school, and ownership. The hospital visitation plan has started and involves approximately 4–5 days in each hospital interviewing the attending staff, the intern staff, residents, students, and hospital administration. Rounds and teaching conferences on the various clinical surveys are attended. The hospitals in the sample will be studied between now and the spring of 1960. In the spring of 1960, the carefully planned Intern Questionnaire will be distributed simultaneously to all interns in those hospitals which have been included in the Study. This should yield much helpful information concerning their view of the internship. It is planned that the data obtained will be analyzed during the summer of 1960 with a target date of October, 1960, for the final report.

7. *Studies of the residency in medical school-controlled hospitals as it is related to the medical school and particularly the intern years and to the service demands of the hospital. The factors that enter or should enter into the remuneration of the resident badly need consideration. The extent and manner of use of interns and residents as teachers also need study.*

Note: It must be remembered that intern and residency matters are primarily the jurisdiction of the hospital staff and of appropriate professional and hospital agencies (for the most part brought together under the umbrella of the A.M.A.). From many standpoints, this is reasonable because medical school hospitals cannot begin to provide or supervise all of the internship or residency programs that exist and are needed in this country. However, the medical schools and faculties, by virtue of the fact that they control a sizable block of hospitals, are in a unique position to provide leadership and set standards in the field of intern and residency education and the complex relationships that must exist between hospital service, administration, and, more recently, hospital-sponsored research. In fact, this is a responsibility that is just being recognized.

Current Status: Consideration of this Study is pending.

8. *Dissemination of current information on medical education obtained in the course of implementing the Division program.*

Current Status: While developing these primary studies for publication in their final report form in *The Journal of Medical Education*, much information of timely interest flows into the research desks of the Division. To circumvent the inherent time-lag of several months in connection with Journal publication, and immediately to make available pertinent information and preliminary data culled from current studies, brief summaries or diagramatic presentations—"Datagrams"—are prepared and distributed in loose-leaf form to an interested list. Such a list includes the Association membership list, medical school librarians, and government and private organizations interested in medical education or the related fields of higher education. Numerous requests have been received from individuals and organizations to be placed on the mailing list for these fact sheets. "Datagrams" also appear in the *Journal*, where each month 2 pages are reserved for their publication.

Services Provided by the Division of Operational Studies

1. Development of bibliographies on selected topics for faculty members and authorized private and governmental agencies.

2. Organization and provision of unpublished factual information from A.A.M.C. studies for authorized individuals and agencies.

3. Assistance and consultation to other organizations planning acceptable studies involving medical education.

4. Maintenance of a current information file relating to studies by "outside" organizations in an attempt to avoid duplication with our studies or those of other groups.

5. Review proposed studies by "outside" interests from which recommendations to the administrative committee are made as to whether or not the proposed study is of value or needed.

6. Occasionally, the Division will organize and assist special Ad Hoc Committees of experts to consider and/or develop information concerning special problems. Examples of this activity are:

a) the publication in *The Journal of Medical Education* of "Some Considerations in Planning New Medical Schools."

b) the proposal to develop a set of essentials for satisfactory relations of medical schools and their affiliated institutions.

The report was accepted.

JOINT REPORT OF THE COMMITTEE ON RESEARCH AND EDUCATION AND THE DIRECTOR OF RESEARCH

HELEN H. GEE

The close working relationship that is maintained between the Committee on Research and Education and the Office of the Director of Research continues to serve as a highly efficient mechanism for developing and carrying out an extensive program of research and services. During 1958–59 the joint efforts of the Committee and the Research Office staff have been directed primarily toward: (1) review and reappraisal of the Teaching Institute and Medical College Admission Test programs, (2) consolidation and coordination of the activities of the Continuing Group on Student Affairs and of Research Office report and service activities, (3) planning the next phases in the longitudinal study of the characteristics of medical students, and (4) preparation for publication of the results of the earlier phases of this research program.

Dr. Robert J. Glaser was appointed chairman of the Committee at the 69th Annual Meeting of the Association in October, 1958. Other Committee members who hold specific appointments are: Dr. George Packer Berry, who is responsible for the Teaching Institute program; Dr. John L. Caughey, Jr., who is Chairman of the Subcommittee on Student Affairs; and Dr. William Schofield, who is in charge of research activities.

A significant addition to the Research Office staff has been made in the appointment of Dr. Edwin B. Hutchins as Research Associate. Dr. Hutchins received his doctoral degree in psychology from the University of Illinois, and has for the past 2 years been engaged in government research. Another appointment made this year that is especially significant to the smooth operation of staff and Committee functions is that of Miss Audrey Livingston, who has assumed the responsibilities of Administrative Assistant. Miss Livingston previously served for 6 years as secretary to the Dean of Harvard Medical School.

Teaching Institutes.—The Association's seventh annual Teaching Institute, the second to concentrate on problems of clinical teaching, will be held October 27–31 at the Edgewater Beach Hotel in Chicago. Dr. Charles G. Child, III, Chairman of the Department of Surgery at the University of Michigan, is Chairman. Under his inspiring leadership, a program has been formulated which is designed to challenge medical education to an examination of many of the most difficult problems confronting it today.

In recent years, the clinical specialties have progressed less through developing and perfecting techniques and more through contributing directly to the body of scientific knowledge by integration and interpretation of the rapid advances in the basic medical sciences. Medical school curriculum patterns and postgraduate programs and practices have not kept pace with these changes, and as the balance between the needs of education and of training shifts, the problems of providing opportunities for real education experiences beyond the traditional 4-year medical curriculum become more acute. Intimately involved in the issues these problems raise are the university and the many licensing and examining boards that influence medical educational programs.

Coexistent with these problems are those generated by a growing concern with the roles that social and psychological factors play in health and illness. Here medicine is faced with problems that range from differences in scientific opinion about how the study of behavioral phenomena should be approached, to mutual concern about how existing knowledge should

be transmitted to students, to arriving at a widespread understanding of differences among philosophical, scientific, and practical issues. These are the kinds of problems with which 1959 Institute participants will struggle.

Assisting the participants in their orientation to some of the specific issues that will be raised is the Teaching Institute Workbook, which this year has taken on a new form. Instead of a compilation of statistical tables, the book is comprised of a series of formal reports prepared chiefly by Dr. Helen Hofer Gee, Director of Research, and her staff. The reports draw on data gathered on behalf of the 1958 Institute, as well as from questionnaires addressed to 1950 and 1958 medical school graduates, which were prepared at the direction of the 1959 Planning Committee.

In addition to contributing directly to the planning of the 1959 Teaching Institute, the Committee has devoted extensive effort to reappraising the structure and functions of the over-all program of Institutes. The Committee perceives the primary objective of the Institute program to be that of providing a mechanism through which intellectual leadership in medical education can be channeled to the benefit of all who participate in and contribute to it. The various elements of Institute structure are international in scope. They include active participation by a new group of teaching faculty members each year, ample opportunity for the exchange of ideas and information in small discussion groups, participation in its forum of representatives from disciplines outside of the medical community whose development has significance for the future of medical education, and provision of background material for deliberations through research. Each of the elements has been scrutinized by the Committee with the aid of opinions solicited from a wide selection of thoughtful educators. The result has been that the Committee strongly recommends continuation of the Teaching Institute program essentially in its present form. It further recommends that, at the conclusion of the current cycle (in 1960), which has been oriented around the successive phases of medical education, a new series be established to be oriented around the study of specific problems created by social, cultural, and scientific development.

Continued publication of the books reporting each Institute is planned. The *Report of the First Institute on Clinical Teaching*, edited by Helen Hofer Gee and Julius B. Richmond, with editorial coordination by E. Shepley Nourse, was published October, 1959, both as a clothbound edition and as a supplement to *The Journal of Medical Education*. Past Institute reports enjoyed a wider circulation in 1958–59 than heretofore, due largely to distribution of the catalog of publications from the Office of the Director of Research described in the following section, "Admission Requirements Book."

Admission Requirements Book.—August 6 was publication date of the 1959–60 edition of *Admission Requirements of American Medical Colleges (Including Canada)*, and the first sales reports show an increase of at least 500 copies when compared with the same period last year. This growth can be attributed chiefly to an increased number of standing orders (libraries and premedical advisers mostly) and a successful direct-mail campaign to high schools and colleges during September. Appropriately, individual students who are prospective applicants to medical school continue to account for roughly two-thirds of the copies distributed.

The 1959–60 edition of the *Admission Book*, adds the new medical school at the University of Kentucky and features new material based on student need as expressed in letters to the A.A.M.C. The additions include: (1) a reading list of 100-odd fiction and nonfiction

books about doctors and the medical profession; (2) a new table of admissions policies and preferences, including age range; (3) further comments on financial aid; and (4) some advice for foreign students.

Promotion plans call for a mailing to libraries later in the fall. This will include an eight-page catalog of publications from the Office of the Director of Research and should consequently result in more widespread awareness of such activities as the Teaching Institutes, the Subcommittee on Student Affairs, and the applicant studies. This catalog was published March 19 and to date has been distributed to approximately 45,000 medical faculty members, 27,000 high schools, 1,200 colleges, and 10,000 members of the National Vocational Guidance Association. E. Shepley Nourse, editorial coordinator for the Director of Research, will report further on the *Admission Book* at the 1959 meeting of the Continuing Group on Student Affairs

The Continuing Group on Student Affairs.—Dr. John L. Caughey, Jr., and his Subcommittee on Student Affairs which includes Doctors Samuel J. Asper, Jr., William N. Hubbard, John J. Mahoney, Woodrow W. Morris, James R. Schofield, and Lyman M. Stowe, have worked together to achieve an exceptionally effective pattern of cooperative effort among medical schools aimed at studying and finding solutions to the administrative problems involved in recruitment, selection and evaluation procedures, and other aspects of the student's life in the medical school.

This activity received its initial impetus from the 1956 Institute on The Appraisal of Applicants to Medical Schools. With leadership provided by Dr. Caughey and key participants in several medical schools, five regional groups of schools have been formed which, through meetings held in the spring of the year, are working together to study student affairs problems in both their regional and national aspects. In the spring of 1959, three of these regional groups met for the first time, and two held their second annual meeting.

On October 31 and November 1, the third national meeting of student affairs representatives of all U.S. medical schools will be held in conjunction with the annual meeting of the Association. The Subcommittee proposes that these national meetings aim toward the accomplishment of three major objectives:

1. To take formal action in executive session on proposals growing out of regional activities or submitted to the group through the parent Committee on Research and Education. Results of such actions are to be reported to the voting membership of the Association through the parent Committee. Proposals to be acted upon at the 1959 meeting include a revision of the Association's recommended acceptance procedures and the acceptance of a formal definition of a medical school applicant.

2. Participation in the Association's staff research programs. The annual meetings provide an opportunity for school representatives to be brought up to date on the ongoing research programs in the A.A.M.C. central office and an opportunity also to discuss ways of improving the annual exchange of information that takes place between the schools and the central office. Dr. Gee and Dr. Powers will report progress on their over-all research programs at the 1959 meeting. Dr. Charles F. Schumacher, Assistant Director on Dr. Gee's staff, will present a paper on medical students' evaluations of each other's behavior and performance. This feature of the annual meetings of the Continuing Group has already proved invaluable in increasing the efficiency of reporting procedures and in establishing excellent working relations between central office and school staffs.

3. Opportunity for professional growth through scientific sessions. In order to promote understanding of the problems involved in student selection, evaluation, counseling, etc., and to stimulate interest in the development of research on these problems in individual medical schools, the presentation of a few selected research papers is planned for each annual meeting. Dr. William V. Clem-

mans of the National Board of Medical Examiners and Dr. John T. Cowles of the University of Pittsburgh will present papers this year.

The Continuing Group's program of activities is unquestionably fostering better mutual understanding and cooperation among medical schools with respect to the many problems that come under the heading of "student affairs." A significant increase in research activity is also evident. There can be little doubt but that continuation of this program will eventuate in improved procedures in the administration of student affairs, from the application stage throughout the student's association with the medical school.

Regular Reports, Research, and Services.—The office of the Director of Research has continued its cooperation with the A.M.A. Council on Medical Education and Hospitals in the interest of eliminating overlapping demands for information from medical schools. Revisions in methods of securing information always create a few new problems; nevertheless, the excellent cooperation that the research office record department is receiving from the medical schools has resulted in remarkably smooth integration of new forms and methods into existing reporting procedures. In an attempt to further standardize the information exchange between medical schools and undergraduate colleges, a schedule of anticipated distribution dates for 1959–60 is submitted herewith, and is followed by a schedule of the dates on which reports from medical schools must reach the A.A.M.C. central office.

The research office practice of providing consulting services on research designs and methods to individual investigators in medical schools and undergraduate colleges has been continued during the past year. Although demands for this type of service have not increased perceptibly, requests for separate analyses and summaries of data available through the many activities carried out by the research office staff, have increased considerably. Local, state, regional, and national educational and government agencies especially are making use of data gathered on behalf of the Teaching Institutes, as well as of applicant and enrollment statistics. Writers and editors of both lay and medical periodicals constitute a new group seeking factual information about the status of various aspects of medical education.

The studies of characteristics of medical students are also creating a new service demand. As methodological models they are of interest in behavioral science circles, and from the standpoint of subject matter they have attracted the attention of specialty groups. A report on changes that occur between the fourth year in medical school and the internship year with respect to choice of type of career and of discipline within medicine has been made available to the Joint Commission on Mental Health. A special analysis of all data available on the choice of careers in obstetrics and gynecology has been made for the American Society of Gynecology, and a report on this analysis will be published as a part of an intensive study of the field that is being completed by that group.

Another new demand for services that has literally mushroomed during the past year comes from abroad. Largely through the Teaching Institute publications, foreign medical educational groups have become aware of A.A.M.C. research activities, and are seeking assistance in developing objective testing techniques and in planning measurement research programs. Representatives of English, Scottish, French, Argentinian, and Vietnamese medical educational groups have been recent recipients of assistance in these areas.

Gratifying as it is to know that the research program is producing material that has such

wide utility, the demands for service are reaching a level where they interfere with over-all research productivity. The need for an additional professional staff member to supervise the development of the regular reports program and to provide educational research services is urgent.

1959–60 CALENDAR OF REPORTS TO MEDICAL SCHOOLS AND UNDERGRADUATE COLLEGES

	SCHEDULED MAILING DATE
A. Medical School Reports	
Class rosters:	
1. Check lists of all students in 2nd, 3rd, and 4th years (establishes enrollment for year).	November 15, 1959
2. Check list of present first-year students (repeaters separate), accepted and withdrawn applicants, and not accepted applicants. (Establishes first-year class enrollment and provides confirmation of applicant study data.)	
Lists of offers of acceptance:	
List No. 1	November 20, 1959
List No. 2	December 18, 1959
List No. 3	January 8, 1960
List No. 4	February 5, 1960
List No. 5	April 1, 1960
List No. 6	June 17, 1960
Undergraduate origins reports 8 and 9	
Report 8 lists number of students from each undergraduate school entering medical school in 1954 whose progress was regular, irregular, or who withdrew from school.	December 1, 1959
Report 9 lists the same information for each medical school with respect to the two undergraduate schools that supply the largest number of students to that school and for all other undergraduate schools providing students for that medical school.	
Final freshman roster:	
Alphabetical listing of all freshmen in all schools, prepared from preliminary roster sent November 15.	January 15, 1960
Summer session bulletin:	
1. Requests for information on summer session offerings.	February 1, 1960
2. Bulletin of offerings by all schools	March 15, 1960
Forms for reporting 1959–60 accomplishment of all students:	May 31, 1960
MCAT reports:	
1. Individual reports of scores of all candidates tested at a given test administration.	December 15, 1959 June 15, 1960
2. MCAT summary of 1959 applicants. Individual report to each school showing average scores and score distributions of all applicants to that school and of the school's 1959–60 first-year class.	April 15, 1960
Irregularity reports	As needed
Biennial reports not scheduled in 1959–60:	
1. Competitive school report: eventual disposition of all applicants to a given medical school (last issued December 1, 1958).	
2. Drawing power report: ability levels of all applicants to all medical schools from a given undergraduate college vs. ability levels of those applying to each medical school (last issued October 26, 1959).	
3. Summary by undergraduate college attended of M.C.A.T. score means and distributions of all students listed over a four-year period (last issued May 1959).	
B. Reports to Undergraduate Colleges	
Undergraduate Accomplishment Reports Form 1 and 8. Form 1 shows 4-year accomplishment of all students from a given undergraduate school who entered medical school in 1955. Form 8 shows application activity and first-year accomplishment of that school's students who applied for admission to the 1958–59 freshman class.	January 15, 1960

1959–60 CALENDAR OF INFORMATION REQUIRED FROM MEDICAL SCHOOLS

INFORMATION REQUIRED	DATE NEEDED
Matriculation forms	October 15, 1959
Class rosters and applicant list Check reports sent by AAMC on November 15 and make necessary corrections	December 15, 1959
Summer session offerings	February 15, 1960
List of graduates from July 1, 1959 through June 30, 1960	July 15, 1960
Accomplishment reports	September 1, 1960
Change of status forms Report on withdrawals, change from full- to part-time status (or vice versa), name change	As soon as change occurs
Information regarding action taken on applications for 1960–61 class Offer of acceptance, withdrawal of application by student, or rejection of application by school	As soon as action is taken

Special Studies and Cooperative Research.—Several special studies have been undertaken during the past year and are at various stages of completion: (1) A study of relations between restrictions on enrollment, medical school expenditures, and the intellectual quality of the student bodies of medical schools has been completed and requires only editorial polishing before being released for publication. (2) Analysis of the data on a study of changes in Medical College Admission Test (MCAT) scores of candidates taking the test a second time has been completed and preparation of a report is underway. (3) The relations between MCAT scores and scores on subtests of the Wechsler Adult Intelligence Scale have been analyzed statistically; a report of the results has yet to be prepared.

A cooperative study of relations between performance on National Board Examinations, performance on the MCAT, and medical school grades was begun two years ago. Dr. William V. Clemmans of the National Board staff and Dr. Gee reported on two aspects of this investigation at the 1959 meeting of the Continuing Group on Student Affairs.

Also, a small survey is under way to evaluate the opinions and attitudes of high school students toward a career in medicine. A questionnaire administered both before and after the showing of the A.M.A.–A.A.M.C. film, "I Am A Doctor," is designed to serve two purposes; (*a*) to furnish some indication of the extent of knowledge held by high school students about medicine as a career and (*b*) as an objective evaluation of the effectiveness of the movie in altering attitudes toward a career in medicine.

Applicant Statistics.—The 1958–59 "Study of Applicants" is being published in *The Journal of Medical Education.* It again reports a decline in the number of applicants to medical schools, this time a decline of 4 per cent as compared with 1 per cent in the previous year. In reality, however, the decline this year is less serious than it was a year ago, since the intellectual quality of the candidates is considerably improved. The applicant study this year examines the extent to which age and MCAT performance are factors in selection, and further demonstrates their relations to failure and other reasons for withdrawal from medical schools. Some questions are raised about inefficiencies in the utilization of talent. A very substantial number of intellectually capable students fail to gain admission to medical schools each year. Some of this inefficiency in the use of talent is probably attributable to the unfortunate accidents of geographical distribution. Perhaps the greater propor-

tion of these talented young people are rejected because of personal inadequacies, however. The onus here is on a society that does not identify and assist such individuals at earlier stages in their development.

Ability, Personality, and Interest Research.—Reports of progress in research on the measurement of ability, personality, and interest characteristics of medical students, and on the relations of these characteristics to problems of recruitment, selection, evaluation, career choice, and "success" in the profession, have been issued annually since 1956 when the program was established.* The past year has been devoted primarily to processing accumulated data and to planning for the follow-up testing and data-collection activities that are to take place during 1959–60 in connection with the longitudinal study of 1956 first-year students in 28 medical schools.

During the winter and early spring of the coming year, the students in the longitudinal study sample will retake the battery of interest and personality tests that were administered to them when they first entered medical school. In addition, they will repeat the interpersonal ratings they made among themselves at the end of their second year in medical school. Further inquiries will be made concerning their reactions to their medical educational experiences to date and their plans for the future.

Faculties in the five major clinical departments of the participating schools are being requested to contribute qualitative ratings of the performances of these students in the clinical setting. Faculty ratings will provide a rich supplement to the global evaluations represented by class standing.

The medical schools involved in the study have also been asked to require all students in the sample to take Part II of the National Board Examinations. The schools cooperating in this aspect of the study will have a unique opportunity to gain considerable insight into a major function of their educational programs—that of transmitting factual information. The design of the study will enable these schools to ascertain a great deal more than the comparative level of their student's achievement test performance. It will be possible for them to determine, for example, the extent to which their students are performing in a manner commensurate with their capacities. Of greatest significance, however, is the opportunity this study makes possible to gain insight into the relative influences of personal chracteristics and characteristics of the medical school environment on student performance. A demonstration of these potentialities was made at the October 31 meeting of the Continuing Group on Student Affairs.

As soon after the fourth-year follow-up data have been collected as is technically feasible, a report on the results of the first phases of these studies will be made available. It is felt that earlier publication of this report might lead to contamination of performance on the follow-up battery of tests and inventories. Dr. Charles F. Schumacher, however, gave a preliminary report on the study of peer evaluations at the 1959 meeting of the Continuing Group on Student Affairs.

With the addition of Dr. Hutchins to the research staff, the very essential study of the differential effects of variations in medical school environments has been made possible. Shortly after the 1959 Annual Meeting of the Association, a consultant group of medical educators will be gathered to assist in launching this aspect of the research program.

* See the *Journal of Medical Education:* pp. 61–63 and 71–78 of the January, 1957, issue; pp. 75–84 of the January, 1958, issue; and pp. 164–66 of the February, 1959 issue.

Currently, the program is most in need of staff time to carry out the previously outlined data collection, to prepare reports for publication, and to plan a means of obtaining evaluations of performance during internship and residency training programs. The desirability of carrying out a study of the characteristics of outstanding practicing physicians has been mentioned in earlier reports. Although it has not yet been possible to anticipate the availability of sufficient staff time to carry out this study, it is hoped that progress toward this end can be made during the coming year.

Financial Support.—In February, 1959, the Commonwealth Fund awarded to the A.A.M.C. Research Division a 3-year grant of $150,000 to be used in carrying out its broad spectrum of research activities. In awarding this grant the Commonwealth Fund has made another highly significant contribution to the support of soundly conceived research and experimental programs aimed toward the improvement of medical education. Without the grants-in-aid of research that have been received from the Commonwealth Fund since 1954, the Research Division could not possibly have embarked upon or continued the important advancement in depth and breadth that have characterized its activities since that time. The Committee on Research and Education and the Director of Research take this opportunity to extend sincere thanks to the Commonwealth Fund for the confidence that is expressed in their continued support.

The Teaching Institute program was also granted continued support by the Commonwealth Fund this year. The 1959 and 1960 Institutes were awarded grants of $25,000 each. The National Institute of Mental Health of the Public Health Service has granted $35,000 in support of the 1959 Institute, and the National Heart Institute has committed $50,000 for support of the 1960 and 1961 Institutes. On behalf of all the medical faculties and representatives of other disciplines in the United States and abroad who have participated in the Teaching Institutes and otherwise benefited from the publications growing out of them, the Committee and the Director of Research express appreciation to the Public Health Service and to the Commonwealth Fund for supporting the continuation of this program which has proved so far-reaching in its effects.

The joint report was accepted.

REPORT OF THE AUDIO-VISUAL EDUCATION COMMITTEE

FRANK M. WOOLSEY, JR., *Chairman*

During the last year Mr. Coleman and the headquarters staff have continued to conduct the functions of the Medical Audio-Visual Institute and its film rental library.

This Committee has continued to explore the possibility of a controlled experiment to evaluate the effectiveness of audio-visual teaching. We have been unable to devise a procedure which is practicable without the expenditure of more time and effort than committee members are able to contribute. If this evaluation is to be made, it will be necessary to obtain sufficient funds to allow the utilization of headquarters staff time. Recognizing the demands on our headquarters staff time and the need for economy, we feel that such an evaluation should not be formalized until adequate funds are available for this specific purpose from outside sources.

The Committee believes it would be helpful if the Committee were to gather up-to-date information on teaching films available to the basic science instructors.

The work now in process involves the gathering of information which would result in

an up-to-date listing of films useful in the teaching of anatomy. Efforts will be devoted to a similar compilation for films useful in pharmacology, physiology and microbiology.

The Audio-Visual Education Committee is concerned with the fact that there has been no revision of the appointments of audio-visual coordinators within recent years. We therefore urge the Association to correspond with each dean, soliciting his cooperation in an effort to bring the appointments of audio-visual coordinators up to date. We hope that the Association will emphasize to the dean that this is an important appointment and solicit his cooperation in naming someone within his institution who is most interested and enthusiastic in the use of audio-visual materials.

Your Committee wishes to submit to the Association the following:

Proposal

This is a formal proposal from your Committee on Audio-Visual Education suggesting that the Association of American Medical Colleges appoint a committee which would be known as the "Committee on Radio, Television, and Electronics."

Need.—During the last few years, formalized experiments and experiences have shown that radio and television may be used successfully and helpfully in medical education. The results of a number of these experiments have appeared in medical publications. Others have utilized these communications media but have not formally published their experiences.

It would seem that there is a need for this committee. Committee members could carefully accumulate and distribute information which would be of great helpfulness to any members of the Association who might wish to evaluate the effectiveness and potentialities for radio and television in medical education.

Increasingly, electronic instruments are used in medicine. Evaluation of their usefulness in medical education might be most helpful and time-saving for those who are considering the acquisition and use of any of these instruments. Since many of these instruments are very expensive, it is thought that an objective appraisal with no commercial linkage might be helpful to the Association members. In the area of "electronics," one would include all electronic instruments used or potentially utilizable in medical education.

There is a need for more effective liaison between the electronics divisions of medical colleges. Such liaison would result in more rapid dissemination of newly acquired knowledge and experience involving utilization of electronic equipment.

Purpose.—As suggested in the above, the purpose of this committee would be to be of service to the Association by accumulation and distribution of information. The committee members would be responsible for the acquisition of this information and would thus allow the Association headquarters to accurately inform and guide those who request information.

In addition, this committee would be charged with the responsibility of attempting to look into the future and determine how the effectiveness of radio, television, and electronics could be augmented through careful planning. As an example, the Federal Communications Commission, through its rules and regulations, governs the use of all radio and television frequencies. Since the rules and regulations of the FCC are continuously subject to change, and since these changes are made as new needs and concepts are developed, it is important for those of us in medical education to anticipate our frequency allocation needs and,

through liaison with the FCC, do everything possible to make sure that our efforts are not delayed or curtailed through lack of advanced planning.

It might also be quite feasible for the Association, through the activities of this committee, to gather information relating to availability and costs involved in the utilization of electronic instruments.

Many of our member institutions have medical electronics divisions employing a number of highly specialized electronic engineers. These departments are recognition of the increasing importance of electronics in medical education and within the practice of medicine. Within the activities of these departments lie opportunities for experimentation and original contributions which may bring about great advances in knowledge and application.

It is suggested that the committee should have the responsibility of helping to develop an organization which would allow and encourage effective interchange of knowledge and experimental results among Association members. This should greatly facilitate the possibility of contributions from these electronics divisions; it should decrease needless repetition, and would be likely to stimulate new concepts and activities.

Committee Members.—It is suggested that the committee chairman and the committee members be appointed in the customary manner. It is further suggested that the committee might be composed of knowledgeable individuals with two members particularly informed about radio communication, two members with substantial experience in television communication, and two members with basic knowledge and practical experience relating to electronics and associated instruments.

It is hoped that the committee members would not only be individuals with the desired knowledge but also people who would have sufficient time, interest and energy to work diligently.

Financing.—It is visualized that the committee members will be active in attempting to acquire grants-in-aid which would adequately finance the committee's activities and also finance experiments and developments through the Association. These grants-in-aid would be to the Association of American Medical Colleges and would be administered by the Association with the help and guidance of the members of this committee.

There are many potential sources for these funds, and it is believed that the funds will be more readily obtained if they are controlled by the Association and if the financed projects have the official approval of the Association. In fact, having been told of our purpose and our financial requirements, E. R. Squibb and Sons, a division of the Olin Mathieson Chemical Corporation, has offered a $10,000 grant-in-aid to the Association which would allow the realistic financing of the proposed committee during 1960.

Conclusions.—It is evident that there is both a real need and a real opportunity for the Association to formulate a Committee on Radio, Television, and Electronics. This committee can add to the many contributions the Association makes to its member institutions and individual members.

We urge the Association to give serious consideration to this proposal.

We have one additional recommendation. One of the reasons we have given relating to the need for a Committeee on Radio, Television and Electronics was the great importance of advanced planning involving essential radio frequency assignments. We therefore recommend that this Association officially urge the Federal Communications Commission to finalize the following proposal—as submitted to the FCC by the American Medical Association on June 11, 1959.

Before the
Federal Communications Commission
Washington 25, D.C.

In the Matter of

Amendment of Part 2 of the Commission's Rules and Regulations; Real location of certain fixed, land mobile and maritime mobile bands between 25 and 420 mc	Docket No. 11959

Petition to Finalize Paragraph 5 of Proposed Rule Making

The American Medical Association, by its attorneys, hereby petitions the Commission to make final at an early date that part of the proposed rule making herein (see paragraph 5) whereby six, 30-kc channels in the band 161.645—161.825 mc would be made available to broadcast stations for remote pick-up purposes on an exclusive basis.

1. This proposed rule making was issued April 9, 1957, concurrently with proposed amendments to Parts 10, 11, 12, 16, 19 and 21 of the Rules as a portion of the over-all split-channel allocations.

2. Petitioner's interest in making this request is to remove what appears to be a serious barrier to further and expanded utilization of FM noncommercial broadcast station facilities for advanced instruction of members of the medical profession.

3. On October 3, 1957, petitioner filed comments in support of the proposal herein and gave detailed reasons for such support. In the interests of brevity such comments are not repeated here but are incorporated by reference and made a part hereof.

4. After the issuance of the proposal in April, 1957, those interested in the aforementioned educational uses assumed that the Commission would finalize this proposal soon thereafter and would make available the exclusive remote pick-up channels needed for this purpose. While other parts of the split-channel allocations have been finalized and certain commercial users have obtained the advantage of new split-channels, this particular proposal has been delayed. The resulting uncertainty and lack of assurance that exclusive channels in the 161 mc band will be available for remote pick-up by noncommercial FM stations, has made it most difficult to make plans with any degree of firmness.

5. Petitioner is mindful that finalization of this proposal at this time might make it necessary for certain licensees in the Land Transportation Service, now occupying the same frequency space in the 161 mc band involved in this proposal, to shift to other split frequencies already assigned to them but which they are not required to use for existing stations until 1963.

6. Nevertheless, petitioner believes that the proposal could be finalized without hardship to existing licensees if the finalization were accompanied by the proviso that, until 1963, these frequencies may be used for remote pick-up purposes on a secondary basis generally and subject to no harmful interference to such existing licensees. Under such finalization of the rules, these channels would automatically become remote pick-up frequencies in 1963 on an exclusive basis and plans could be made accordingly. In the meantime, there will be many areas where there will be no usage by Land Transportation licensees and where such frequencies could be put to use for remote pick-up frequencies without further delay and without interference to existing licensees. Otherwise, these frequencies will lie fallow until 1963 in such areas of non-use.

7. Petitioner therefore requests the Commission to finalize the proposal herein for the allocation of six, 30 kc, exclusive, remote broadcast pick-up channels, in the band 161.645–161.825 as soon as possible with the condition suggested above.

Respectfully submitted,

THE AMERICAN MEDICAL ASSOCIATION

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Counsel for Petitioner

June 11, 1959

The report of the committee was accepted and referred to the Executive Council for study and probable implementation.

REPORT OF COMMITTEE ON CONTINUATION EDUCATION

C. WESLEY EISELE, *Chairman*

At the Annual Meeting of the Association of American Medical Colleges in Philadelphia in October, 1958, a closed meeting of the Committee was held on Sunday, October 12th and an open meeting was held on Monday, October 13th. An interim meeting of the Committee was also held in Chicago on February 7, 1959, at the time of the Annual Congress on Medical Education. At these meetings a variety of subjects related to postgraduate education for the practicing physician were discussed. Most of the material concerned perennial topics for which firm solutions have not been forthcoming. The need for suitable methods of evaluating the effectiveness of various postgraduate techniques was discussed at some length. The problem of reaching the physician in practice who is difficult to reach was again discussed. Two classes of individuals were identified, the disinterested physician and the physician practicing in an isolated location who finds it hard to get away. Provisions for scholarship assistance in selected instances, for *locum tenens* coverage for isolated physicians, and means of improving motivation were considered. The role of the medical schools in continuing education and methods of financing programs were discussed. The role of specialty societies, voluntary health organizations, and of pharmaceutical firms were also discussed, and the possible conflicts in interests and aims were considered. It seems appropriate and timely for the medical schools to re-evaluate their responsibilities and opportunities for leadership in postgraduate medical education.

The report of the Committee was accepted.

JOINT REPORT OF THE EDITORIAL BOARD AND EDITOR *The Journal of Medical Education*

JOHN Z. BOWERS

The Journal of Medical Education has shown progress in several areas during the past year.

From July, 1958, to June, 1959, 140 manuscripts were reviewed. Of this total, 78 were published without revision; fifteen were accepted with revision; 30 were rejected, and seventeen are still out for revision or not back from reviewers.

There are 5,836 subscriptions to the journal under the following categories: institutions—2,450; individual—2,112; and foreign—825.

The number of manuscripts published each month has increased, and the development of new sections has helped to enlarge the journal. The total contents will average about 100 pages during the coming year. We have been gratified by the increase in the number and quality of manuscripts submitted without solicitation. All approved manuscripts have been published in the regular issues of the journal, and, in line with sound publication policy, supplements were discontinued.

In January, 1959, a new section "Abstracts from the World of Medical Education" was initiated. This is intended to keep the reader abreast of development in medical education at home and abroad. The Medical Education Forum has grown rapidly in scope and significance. Addresses, communications, reports, and editorials are published in this section of the journal.

Last December, for the first time, we published an annual comprehensive subject and author index prepared by a professional indexer. We have in preparation a comprehensive 5-year index dating back to 1953. We believe that improved indexing will increase the use of the journal as a reference source for medical educators.

Significant articles from other countries have increased in number. Under a grant from the Rockefeller Foundation, we will distribute the journal to the members of the Association for the Study of Medical Education in Great Britain. Our relations with ASME have been materially strengthened through Dr. John Ellis. The papers from the first ASME London Conference are in press.

Members of the Editorial Board have rendered yeoman service through many reviews of manuscripts and each has taken on a special task. Professor Frederick Norwood continues to supervise the articles on the History of Medical Education. For the past year a series of biographies of eminent medical educators has been in publication. Dr. Kenneth Penrod directs the Book Review Section, which emphasizes the educational value of books. Drs. Ham, Harrell, and Lippard have carried a demanding burden in reviewing manuscripts. We have in press for January, 1960, a special number on Animal Care Programs. Dr. John A. D. Cooper will serve as Guest Editor. Dr. Julius Comroe is collecting a series of manuscripts on Examination Systems and Methods. Dr. Stanley E. Bradley is collecting a special issue on the Medical Library. Dr. Melvin Casberg, who contributed timely editorials, has resigned from the Editorial Board to accept his new post as Principal of a Christian Medical College in India. He will keep our readers posted on developments in medical education in Asia. Mrs. Elizabeth Pohle, Assistant Editor, and Miss Neva Resek, News Editor, have contributed greatly to the success of the program.

A special international number of the journal was published in August, 1959, in recognition of the Second World Conference on Medical Education. An exhibit on the publication program of the A.A.M.C., featuring the journal, was developed by Mrs. Pohle for the Conference.

The major objective for the coming months is to assure a continuing supply of quality manuscripts. The Journal has undergone a number of changes in the last two years. We welcome comments from our readers as we endeavor to settle down in the present pattern.

The joint report was accepted.

REPORT OF COMMITTEE ON FINANCING MEDICAL EDUCATION

GEORGE E. ARMSTRONG, *Chairman*

The only meeting of the Committee on Financing Medical Education held subsequent to the meeting of the Association of American Medical Colleges in Philadelphia in October, 1958, was held at the Palmer House in Chicago on February 7, 1959. This meeting was attended by all members of the Committee with one exception and in addition, Doctors Coggeshall and Darley were present and participated in the discussions. As a result of the recommendations made by the Committee at that meeting, the following actions were taken at the Institutional Membership Meeting of the A.A.M.C. held at the Palmer House in Chicago on February 7, 1959, and subsequently reported in detail in the minutes of that meeting:

1. Resolved that the membership of the Association of American Medical Colleges in its 68th Annual Meeting go on official record as being in complete accord with the principle of Federal

financial assistance in the construction of new, and the expansion and modernization of existing, facilities for medical education in our medical schools.

Be it further resolved that a report of this action be transmitted to each member of the Congress.

2. Resolved that the medical schools of the United States, which comprise the institutional membership of the Association of American Medical Colleges, request the United States Congress to require that all Federal agencies that support medical research provide for the full costs thereof.

3. Voted to request the Congress to restore the 10 million-dollar cut in appropriation for research facilities as proposed in the President's budget.

4. Requested the Executive Director to look into the Association's lending support to an amendment to the Hill-Burton Act that would make it possible for medical school-owned or -affiliated hospitals to derive more benefit from the Hill-Burton Act than has been the case in the past.

Since the Chicago meeting in February 1959, various members of the Committee have assisted the Executive Director of the Association in presenting the Association's views to various appropriate committees and sub-committees of the Congress.

Following the acceptance of this portion of the Committee's report, Dr. Armstrong presented the resolutions which had been passed at the November 1st meeting of deans concerning the Director of NIH having asked the best means for providing the most effective representation of institutional points of view in the development and conduct of NIH programs (see p. 590 of the minutes of this meeting). After studying these two resolutions in their own meeting, the Administrative Committee felt that they should be canceled and a slightly amended version should be presented to the membership for approval at this meeting. The substitute resolution reads as follows:

WHEREAS there are many proposals that will shortly be presented to Congress that will have a major impact on the conduct of medical education and medical schools in the future, and

WHEREAS it is important that those proposals be carefully studied by the medical schools and that the considered and collective opinion of the medical schools through action of the A.A.M.C. be available to the Congress and to the public; therefore be it

RESOLVED: That the Executive Council be instructed to study these proposals and make recommendations to the member schools for their consideration and action at a special meeting of the Institutional Members of the A.A.M.C. to be called, if possible, before the opening of the next session of Congress.

BE IT FURTHER RESOLVED: That the Executive Council effect an arrangement whereby the Association can keep in continuing communication and consultation with those agencies of the Federal Government that have interests or programs that concern the welfare of medical education or any of its related activities.

Following cancellation of the original two resolutions (see p. 590) the substitute resolution was accepted.

REPORT OF THE COMMITTEE ON INTERNATIONAL RELATIONS IN MEDICAL EDUCATION

ROBERT A. MOORE, *Chairman*

An important meeting of the Committee was held on October 17 at the Downstate Medical Center. The following items were discussed:

1. Establishment of an International Division of the Association of American Medical Colleges:

The committee reviewed the preliminary policy statement based on the discussions at the committee meeting in July. There was full agreement on the principle and the committee recommends to the Executive Council of the Association:

That steps be taken at any early date to establish an international division with long-term, at least 5-year, adequate support from one or several foundations or governmental agencies.

The committee further recommends to the Council that the following general functions be assigned to the division:

A. To solicit the interest of faculty members in American schools in pro tem faculty appointments overseas and maintain a central registry of those so interested.

B. To solicit the interest of departments in American schools in acceptance of faculty members from overseas schools and maintain a central registry of those interested on the basis of nation, specialty, year available, etc.

C. To make information available and personnel and training opportunities to agencies and institutions concerned with medical education in this country and overseas and assist these agencies and institutions in making contacts.

D. To work with concerned American agencies, governmental and private, in the development of personnel practices which would place pro tem overseas service in a favorable position.

E. To make available information on American medical education to those concerned with medical education overseas.

F. To collaborate in providing information or sources of information on the culture and mores of the concerned nations.

G. To carry out related activities as may be assigned by the Executive Council.

Further, the committee recommends that the international division not undertake:

A. To serve as an employing or placement agency on an individual basis.

B. To assist those who come to the United States for medical training not under the sponsorship of an agency or institution concerned with medical education.

Finally, the committee suggests the division should be headed on a full-time basis by a mature medical educator, who has had a real interest in international affairs and preferably has had some personal experience overseas. He and his staff would concern themselves primarily with:

A. operation of the central office;

B. travel to American schools to talk with deans, department heads, and those interested;

C. travel overseas from time to time to see personally the type of faculty member needed, to acquire knowledge of peculiar conditions which must be considered, and to discuss problems with the overseas representatives of governmental, intergovernmental, and private agencies; and

D. interview American faculty members interested in pro tem overseas service and obtain a curriculum vitae on each for review by those who request information on possible candidates.

2. Smith Kline & French Foreign Fellowships for Medical Students:

Dr. Darley and Mr. Grala outlined the proposal of Smith Kline & French to make available to the A.A.M.C. a grant of $50,000 a year for three years to support fellowships for medical students to work in overseas institutions. There was enthusiastic endorsement of the idea by all present and the committee urged that the Executive Council accept the offered grants from Smith Kline & French for student overseas fellowship.

The committee assumes adequate mechanisms for selection and for administration will be established by the Council, but ventures to suggest some principles.

A. That nominations be made only by medical schools, not by individuals, with some limitation on the number of nominations from any one school.

B. That applications be accepted and evaluated in two stages:

1. Preliminary application outlining the past record of the applicant and the proposed program of study.

2. Final application giving full details of the applicant, and of the proposed program of study, together with evidence the applicant is acceptable to the sponsor in the overseas institution.

C. That awards involve both the promise and ability of the applicant and the proposed program, with emphasis on programs and experiences which cannot be secured in the United States, clinical, public health, and research, and on programs and experiences which will through the student bring something back to this country.

D. That during the 3-year period every attempt be made to provide at least one fellowship in each American school, with priority in the second- and third-year to those schools which have not had one.

E. That preference be given to those applicants, otherwise qualified, who have not had previous medical experience overseas.

F. That the amount of the award be on the basis of need up to the full cost, rather than as a flat sum to everyone or as full reimbursement.

G. That a contribution to the expenses of a wife to accompany the fellow be made when this seems desirable to terms of the objective of the program and of this fellowship. That awards not be made for expenses of children.

H. That the A.A.M.C. establish a mechanism by which schools may secure advice and counseling on the possible overseas opportunities in relation to interests and programs.

I. That fellows be asked to submit full reports of their experiences at the termination of the fellowship.

3. Policy Statement on Education of Foreign Nationals in American Medical Colleges:

Dr. Moore reviewed briefly the problem over the last 4 years of formulating a policy statement on this matter. He called attention to the statement drafted at the closed meeting of the committee in Philadelphia last year and reported that the almost unanimous opinion of those at the open committee hearing in Philadelphia led him to withhold further action on this draft.

Dr. Moore read a letter from the director of the Foreign Student Leadership of the United States National Student Association which indicated this group might actively recruit foreign nationals to study in American schools.

There was consensus:

A. That it is desirable that some foreign nationals study in American schools, but that beyond this, the matter should be left to the individual American schools.

B. That active recruitment of foreign nationals by outside groups is undesirable because it will lead to disappointment to many.

C. That the recent ruling of the State Department limiting student visas to five years largely eliminates the problem.

Hence, the committee recommends to the Executive Council:

That the Association take no position on the education of foreign nationals in American schools, but that when other groups appear to be planning to recruit such students that the officers of the Association seek in a joint meeting (not in a letter) to acquaint the group with the realities and problems of the foreign national in gaining admission and completing satisfactorily the course in an American school. Specifically, it is recommended this be done with the group named in the preceding statement.

4. Exchange of Teams on Medical Education with Russia:

Dr. Moore inquired if the committee believed the Association should seek through the government to arrange an exchange of teams on medical education with Russia.

Dr. Van Zile Hyde indicated that present programs of exchange do not include medical education, but that a new agreement with Russia is now being negotiated.

As the result of the discussion the committee recommends to the Executive Council:

That the Association at this time indicate to the responsible agency of the United States government its willingness to act as the private agency in the United States in arranging for an exchange of groups in medical education with Russia, if and when such an exchange is authorized and is desired.

5. Certification of Foreign Nationals by American Specialty Boards:

Dr. Moore asked the opinion of the committee on whether or not the Association should actively urge the American specialty boards to certify foreign nationals who have been trained in this country and are returning to their native country. Dr. Moore reported that about half the boards do accept such candidates, among them the American Board of Pathology, of which he was a member for twelve years ending in 1954. The special policies of this Board include:

A. That the candidate meet the same requirements in his country concerning license to practice and membership in a national society as the American candidate must meet in the United States.

B. That the candidate graduated from a medical school acceptable to the Board and if any postgraduate training for credit was taken overseas it was in an institution acceptable to the Board.

C. That not less than 1 year of the 4 years of training be in an approved American institution.

D. That the certificate will be revoked if the successful candidate does not return to his country in not less than 6 months after the date he said he was. (In more recent years issuance of the certificate has been withheld until return).

There was considerable variation of opinion among committee members from a position the Association should not interest itself in this problem to the other extreme—that we should actively work for acceptance by all Boards. It was pointed out that many leaders of medical education and medical practice wish to have their young men receive board certification after study in this country. It was suggested a study be made to determine the fate of foreign nationals who have been certified. The committee makes no recommendation.

6. Annual Conference of Foreign Scholars:

It was pointed out that the annual conference of foreign scholars held now for 3 years under the sponsorship of the A.A.M.C. was initiated with a 5-year grant from the China Medical Board of New York, and hence has only 2 years of future support.

Most members present were familiar with the conference and indicated enthusiasm for what had been accomplished. It was suggested that if selection of participants could be made earlier, those invited might have more time to formulate their questions and discussion:

The committee recommends to the Executive Council that the Association continue to sponsor and give strong support to the conference of foreign scholars and that the Association at an early date seek funds for future conferences after the expiration of the present five-year grant.

It was suggested that if the Association activates the proposal on an international division, the program of conferences be included in that division both administratively and fiscally in terms of grants.

The report was accepted and referred to the Executive Council for implementation.

REPORT OF COMMITTEE ON INTERNSHIPS, RESIDENCIES, AND GRADUATE MEDICAL EDUCATION

E. HUGH LUCKEY, *Chairman*

The Committee on Internships, Residencies, and Graduate Medical Education has been concerned with three matters during the past year. These are: (1) the study of the internship

now in progress; (2) development of "traffic rules" for residency appointments; and (3) the development of a program for basic graduate medical training of family physicians.

The study of the internship described at the last Annual Meeting of the Association is now in progress. Dr. Richard Saunders was appointed Director and began work in December, 1958. To date questionnaires have been prepared both for Deans of the schools responsible for internships which have been selected for survey and for interns participating in these programs. Meanwhile, Dr. Saunders has begun visits to the 29 hospitals in the sample selected for the study. A considerable amount of time has been spent in reviewing the voluminous literature on the subject of internships. It is anticipated that a more informative report including tentative conclusions may be presented at the next Annual Meeting of the Association.

At the last Annual Meeting of the Association our Committee recommended, and the Council subsequently approved, a proposal that heads of clinical services in university teaching hospitals be invited to participate in a voluntary plan to postpone the appointment of assistant residents until later in the year. This proposal was to provide more time for interns to make decisions about future training and to afford the hospitals the opportunity of more careful evaluation of applicants for assistant residents. The Association asked each Dean to express an opinion about this proposal. The responses were varied. Some were enthusiastic, some ambivalent, and some were strongly opposed to this proposal. It became clear that such a proposal would have to be implemented through action by individual groups rather than by full clinical faculty action in the medical schools. In internal medicine the proposal was discussed at a meeting of the Academic Medicine Club (now known as the Association of Professors of Medicine) in May, 1959. All heads of Departments of Medicine in the medical schools were polled and offered the opportunity of participating in a plan to delay the appointments of first-year assistant residents until November 1 of the intern year. More than 90 per cent of the heads of Departments of Medicine in our medical schools have agreed to participate on a voluntary basis beginning in 1960, for assistant residents who will serve in 1961–62. This is an encouraging development. Our Committee has been informed that a regional agreement has been reached by heads of services in psychiatry on the East Coast. To our knowledge, no other group has reached such an agreement. It is hoped that the experience in medicine will be satisfactory and will encourage other disciplines to accept such a plan.

During the year the Chairman of the Committee was asked to work with the Committee on Preparation for General Practice of the American Medical Association in its attempt to develop a program of basic medical training for family physicians. The program as recommended by the Committee was approved by the House of Delegates of the American Medical Association in June, 1959. This program incorporates training in internal medicine, pediatrics, psychiatry and emergency surgical work. The minimal requirement of the basic program requires at least 2 years of formal hospital training. Considerable emphasis would be placed on ambulatory and out-patient care. The opportunity for training in obstetrics would be available on an elective basis. The Council on Medical Education and Hospitals of the American Medical Association was instructed to implement the intent of this report and to encourage educational institutions to participate in this type of training program. The full report of the Committee is available in the Proceedings of the House of Delegates. It is hoped that all members of the Association will become familiar with this proposal.

The report of the Committee was accepted.

REPORT OF COMMITTEE ON LICENSURE PROBLEMS

JAMES E. MCCORMACK, *Chairman*

In last year's Committee report, attention was drawn to the fact that changes in the nature of experiments with the curriculum of certain medical schools could possibly create problems for the graduates of those schools if any of the state laws governing medical licensure requirements included overly specific or excessively rigid requirements. Inquiry within the Federation of State Boards of Medical Examiners during the past year has not disclosed any significant conflict at this time. Not all states replied to the inquiry, but it would appear that there is no great problem in this regard. However, if very drastic changes in the curriculum are contemplated such as elimination of an entire discipline, it might be well for the Dean of such a school to consult with the secretary of the Federation of State Boards of Medical Examiners in order to avoid the possibility that his graduates may some day find themselves ineligible in one or another of the 50 states.

Foreign Trained Physicians

There are listed below a tabulation of available data as to the number of alien physicians known to be in hospitals in the United States during the past decade.

	"ALIEN" INTERNS AND RESIDENTS	
Year	H.R.A.C.	I.I.E.
1950–51	2072	
51–52	3349	
52–53	4388	
53–54	5589	2920
54–55	6695	5036
55–56	7873	6033
56–57	9254	6741
57–58		7622
58–59		8166

The figures in the column on the right were collected by the Institute of International Education and represent literal aliens; i.e., Americans trained abroad and foreign-trained immigrants are not included, but only those visitors who will presumably return home. In the column on the left are data collected by the Health Resources Advisory Committee of the Office of Defense Mobilization beginning somewhat earlier. These figures may be more complete and presumably include persons who were trained abroad and have come here on immigrant status; i.e., not all are aliens, by definition, as are all of the I.I.E. totals. Unfortunately, the H.R.A.C. data have not been collected beyond the year 1956. The figures in neither column are cumulative, since most trainees remain more than one year. Indeed, in April of this year the State Department issued a statement setting a limit on the amount of time physician exchange visitors may stay for internship and residency (5 years).

Elsewhere in the material to be reported at this meeting will be data from the Educational Council for Foreign Medical Graduates. Meanwhile it is pertinent to observe that to date some 6,500 foreign-trained physicians have been examined by the ECFMG. This is heartening evidence that some progress is being made in this difficult area. It is interesting to observe that at least four of the specialty boards (anesthesiology, orthopedic surgery, pediatrics, and urology) now accept certification by the ECFMG as evidence that the candidate has graduated from a recognized medical school. Also an increasing number of state licensing boards are accepting the certification of the ECFMG. There still are some eight

states and two other jurisdictions which admit no foreign medical graduates to licensure and a number of states whose statutes make it impossible to give any weight to an ECFMG certification.

The problem of licensure endorsement or reciprocity is one that from time to time presents a real problem for American graduates, including those who are being considered for academic posts in states other than the state of their primary licensure. This problem is very much magnified for graduates of foreign medical schools. While it is disheartening to some that progress cannot be made more rapidly in the field of reciprocity it is fair to say that progress is being made, however slow.

New States

All these problems may be magnified now that the former territories of Alaska and Hawaii have been welcomed to the roster of states. Both of these states have had, as territories, some sort of reciprocity. (Incidentally, Hawaii must be added to the number of states which still have a basic science law.) Neither state has a medical school. There are only a small number of internships and residencies in Hawaii and none in Alaska. According to the American Medical Directory for 1958 Hawaii has 574 physicians of whom 39 received their medical degrees in countries other than the United States and Canada. In Alaska there were 101 physicians of whom six received their medical education outside the United States and Canada.

The report of the Committee was accepted.

REPORT OF COMMITTEE ON MEDICAL CARE PLANS

JOHN F. SHEEHAN, *Chairman*

At the 1958 Annual Meeting two statements (see pp. 185–86 *J. M. Educ.*, Jan., 1958) formulated by the Committee on Medical Care Plans were referred by the membership to the Executive Council with the recommendation that the Council accept them in principle and submit them to the Liaison Committee with the Council on Medical Education and Hospitals of the A.M.A. The Council on Medical Education and Hospitals in liaison with the A.M.A. Council on Medical Service approved with changes statement #1 pertaining to provision of medical service for private patients by full-time clinical faculties. Statement #2, concerning provision by residents of medical service for paying patients, was considered unacceptable. The Executive Council of the A.A.M.C. has returned the two statements to the Committee on Medical Care Plans for further consideration and recommendations.

Statement #1, as altered by the A.M.A. and further modified by your Committee, is herewith presented:

Statement #1

Provision of Medical Service for the Care of Paying Patients by Salaried Clinical Faculties of Medical Schools

The complexity of medical education today makes it necessary that the major clinical departments have a nucleus of faculty members whose primary interest, efforts and responsibilities are in the teaching and research activities of the medical school. In order to provide adequate clinical instruction, there must be available sufficient numbers of patients to permit students individually to observe, work up and study the progress of a variety of patients in the major clinical fields.

The financial resources of most medical schools are not sufficient to offer salaries that alone are adequate to attract and retain the clinical teachers and investigators necessary to achieve the ob-

jectives of a modern teaching center. It has become necessary, therefore, to develop methods for supplementing the salaries of many clinical faculty personnel who have chosen to follow academic careers. In addition, economic factors such as the extension of voluntary health insurance and expansion of welfare benefits have markedly decreased the volume of indigent patients that have traditionally served as a major resource in clinical teaching.

Under appropriate circumstances, these two problems—the need for supplementing salaries of clinical teachers and the diminishing number of indigent patients available for clinical teaching—may be resolved through extending the privilege of the care of paying patients to career clinical teachers in the medical school hospital where the patients will contribute to the teaching program.

The recognized need for expanding educational facilities in medicine will require a proportionate expansion in the numbers of academic clinical teachers and in the numbers of patients available for clinical instruction.

The Liaison Committee on Medical Education, representing the Executive Council of the Association of American Medical Colleges and the Council on Medical Education and Hospitals of the American Medical Association, in cooperation with the Council on Medical Service of the American Medical Association, have agreed that the care of paying patients in medical school hospitals by career clinical teachers is proper and appropriate, provided:

a) That fees are established by the participating physicians.

b) That the income from fees is deposited in a separate fund of the university or medical school.

c) That disbursements from the funds are made in accordance with a plan approved by the governing body of the faculty and by the university.

d) That the amount of medical service and the number of physicians providing such service are related to and limited by the educational and research requirements of the institution.

e) That proper limits are established for participating physicians so that there can be assurance that the care of paying patients will not detract from their primary teaching and research functions.

Note: The following paragraph was approved by the AMA Councils on Medical Service and Education and Hospitals but was stricken by your Committee prior to presentation to the Institutional Membership:

f) That charges be made, where possible under the existing laws of the state, to the physician for all facilities and personnel involved in his care of paying patients, prorated in accord with the use of such facilities in his private practice.

The attention of the membership is called to the adoption by the House of delegates of the A.M.A. at its meeting last June of a resolution (Resolution #10) pertaining to the "Payment of Fees by Paying Patients to Hospital Residents":

WHEREAS, it has been proposed by the Committee on Medical Care Plans of the Association of American Medical Colleges that there be a "provision of medical services for paying patients by residents"; and

WHEREAS, the position of the A.M.A. on this subject has already been established; therefore be

RESOLVED, That the A.M.A. House of Delegates reaffirm its position (Resolution #60, it A.M.A., 1957, New York Meeting, J.A.M.A., **164**:1248, 1957) of opposition to payment of residents-in-training for medical services.

This resolution was introduced by the delegates of the Nebraska State Medical Society and referred to the *Reference Committee to Insurance and Medical Service.* It was adopted by the House with the recommendation that appropriate councils or committees of the Association continue to study this subject. The council charged with this study is the Council on Medical Service.

Be all of this as it may, your Committee on Medical Care Plans is still hopeful that the sense of last year's resolution "Provision of Medical Service for Paying Patients by Residents" can be developed for adoption.

The report, including the recommended resolution "Provision of Medical Service for the Care of Paying Patients by Salaried Clinical Faculties of Medical Schools" was approved.

REPORT OF COMMITTEE ON MEDICAL EDUCATION FOR NATIONAL DEFENSE

STANLEY W. OLSON, *Chairman*

The Committee on Medical Education for National Defense has had three meetings during the past year, on October 12, 1958, in Philadelphia, Pennsylvania; on February 7,1959, in Chicago; and on June 8, 1959, in Atlantic City, New Jersey.

Prior to 1958–59, a subcommittee appointed from this Committee, together with Federal representatives from each of the branches of the Department of Defense, the Public Health Service, and the Office of Civil and Defense Mobilization, had constituted a subcommittee for the MEND program, charged with the direct responsibility of supervision of all affairs connected with administration of the MEND program. Early in this academic year, it was decided to dissolve the Subcommittee by name, and to absorb its duties into those of the Committee on Medical Education for National Defense, with the Federal representatives constituting a Federal MEND Council which would meet jointly with the Association's Committee to discuss and explore matters of mutual interest, particularly with respect to the MEND program.

The major activities of the Committee during the past year have been concerned with the MEND program, and this report therefore represents largely a report on the activities of this program.

As of January 1, 1959, the following ten schools were added as MEND participants, bringing the total to 55 schools included in the program: Boston, Cincinnati, Geo. Washington, Indiana, Marquette, Meharry, Nebraska, Puerto Rico, Southwestern, and SUNY (Syracuse).

Late in the fall, a written invitation was extended by the Chairman of the Committee to schools still not participating, inviting application for affiliation.

At its June meeting in Atlantic City, the Committee increased the number of schools to be selected for inclusion as of January 1, 1960, from ten to fifteen, which will make a total of 70 medical schools in the program. (Two additional institutions—University of Cincinnati Medical School and the Mayo Foundation Graduate School of the University of Minnesota—participate on a non-funded basis.) The fifteen new schools selected are: Albany, Arkansas, Chicago, Hahnemann, Jefferson, Minnesota, Missouri, New York Medical College, Southern California, South Dakota (2-year school), Tennessee, Utah Wayne, West Virginia (2-year school), and Woman's Medical College.

The following schools have asked to be included when selections are again made: Harvard, Kentucky, and Stanford.

Dr. Bennett F. Avery, who assumed the position of National Coordinator for the MEND program on July 1, 1958, has brought to the program a broad background of academic experience. For some 14 years, from 1926 to 1940, he served at the American University of Beirut, with appointments in anatomy and as chairman of the preclinical years. Subsequent to that appointment he was professor of anatomy and dean of Boston University School of Medicine from 1940 to 1944. From 1944 to 1949 he served as advisor to the Imperial Iranian Ministry of Health. He was appointed a Captain in the U.S. Navy in 1950, and served as director of the publicity division of the Bureau of Medicine and Surgery

from 1952 to 1955 before assuming the editorship of the U.S. Armed Forces Medical Journal in 1955. He held this position until his appointment as National Coordinator of the MEND program on July 1, 1958, presently remaining on active duty in the Navy, exclusively assigned to the MEND program.

Dr. Avery has visited a majority of schools in order to obtain first-hand knowledge of the specific activities in connection with Medical Education for National Defense at these institutions. He has taken a vigorous interest in the development of outstanding symposia and has sponsored a series of regional conferences for MEND coordinators.

The following symposia were offered during the academic year, 1958–59:

1. "Infectious Disease Problems," conducted by the Army, at Walter Reed Army Institute of Research, January 19–21, 1959.
2. "Medical Operation and Research in Climatic and Environmental Extremes," conducted by U.S. Navy at Naval Medical Center, Bethesda, Maryland, March 4–6, 1959.
3. "Research and Development in Aviation and Space Medicine," conducted by U.S. Air Force at Aero Medical Laboratory, Wright-Patterson AFB, April 8–10, 1959.
4. "Nutrition under Wartime or Disaster Conditions," conducted by U.S. Army at Army Research and Nutrition Laboratory, Fitzsimmons Army Hospital, Denver, Colorado, April 30–May 1, 1959.
5. "Radiation Health Problems," conducted by U.S. Public Health Service, in Washington, D.C., May 11–13, 1959.

The following symposia have been scheduled for the current academic year:

1. "Preventive Mobilization and Health Mobilization," to be conducted by Public Health Service at Robert A. Taft Sanitary Engineering Center in Cincinnati, Ohio; Communicable Disease Center in Atlanta; PHS Regional Office III in Charlottesville, Va., and Headquarters installations around Washington, D.C., October 12–16, 1959.
2. "Blood, Fluids, and Trauma," to be conducted by U.S. Army at Walter Reed Army Institute of Research (with Brooke Army Medical Center cooperating), Washington, D.C., December, 1959.
3. "Rehabilitation and Radiation," to be conducted by U.S. Navy, in Oakland, California area, Spring, 1960.
4. "Arctic Medicine," to be conducted by U.S. Air Force, possibly in Alaska, late Spring, 1960. (Planning incomplete at this time.)

The annual MEND Coordinators' Conference was held in Chicago in February at the time of the Congress on Medical Education and Licensure, and was well attended.

The financing of the MEND program continues to be on a contributory basis by the three branches of the Dept. of Defense and by the Office of Civil and Defense Mobilization, working through the Public Health Service as a delegate agency. The total amount available for the current year is $630,000.00. This provides an average grant in the amount of $10,600 to each school. As in the past, the expenditures of maintenance of the National Coordinator's Office have been kept to a minimum, reflecting the general policy that the initiative for the educational activities supported by MEND lies with the individual schools rather than with the Federal agencies.

There has been excellent cooperation on the part of the representatives of the Army, Navy, Air Force, Public Health Service, and the Office of Civil and Defense Mobilization in conduct of the MEND program. The officers representing these agencies have made their facilities fully available, and have come to regard the MEND program as an important means of contact between their agencies and the medical schools of our country.

In summary, the MEND program has had the finest kind of acceptance both by the

medical schools and by the Federal agencies, and has achieved a kind of stability which is gratifying to all who have participated in its development.

The report of the Committee was accepted.

REPORT OF COMMITTEE ON VETERANS ADMINISTRATION–MEDICAL SCHOOL RELATIONSHIPS

GRANVILLE A. BENNETT, *Chairman*

The Committee held two meetings during the past year. The first of these was scheduled in Chicago on November 13, 1958, to consider an invitation extended to the chairman by Doctor Russell B. Roth, Chairman, Committee on Federal Medical Services of the American Medical Association, to participate in an open panel discussion of the question, "Are Education and Research Essential to Veterans' Medical Care?" at the American Medical Association's Clinical Meeting on December 1, 1958, in Minneapolis. This meeting was attended by four members of the committee and by Doctors Darley, Young, and Sheehan. It was decided that Doctor Roth's invitation should be accepted and that the position of the A.A.M.C. as set forth in the records of its 65th Annual Meeting (*J. M. Educ.*, **29**: 68–70, 1959) should be emphasized.

Actions relative to the panel discussion at the A.M.A. meeting have been made known to deans of medical schools by means of memorandums number 35 and number 44 issued by Dr. Darley, Executive Director.

The complete transactions of the panel discussion are available in a bound pamphlet issued by the A.M.A. and titled "Proceedings, Conference on Medical Services, Monday, December 1, 1958."

The second meeting of the committee was scheduled in Chicago on Saturday, February 7, 1959. The chairman reported on the conference held on December 1, 1958, and summarized the views expressed by the several panelists.

Against the background of recent developments and in accordance with recommendations voiced on previous occasions, the committee considered ways and means of procuring information on the extent of current use of and projected needs for Veterans Administration Hospitals by medical schools in furtherance of their educational and research programs. A short questionnaire designed for this purpose was prepared and issued to all American medical school deans. Replies indicate that 70 medical schools are affiliated, by means of Dean's Committee representation, with 96 Veterans Administration Hospitals. Tabulated data from the questionnaire will be available for inclusion in the final report of the committee.

It is anticipated that the data will provide a basis of determining whether or not there is need for a more detailed study by the Association of American Medical Colleges of relationships between medical schools and Veterans Administration hospitals.

The committee has drawn much information from the published report of Doctor John C. Nunemaker, "The Veterans Administration–Medical School Relationships" (*J. M. Educ.*, **34**:77–83, 1959). Also, through the courtesy of Doctor Marjorie P. Wilson, the committee has received for review a preliminary report of a Veterans Administration study of inter-relationships of Veterans Administration residency programs with those under medical school sponsorship.

The report of the committee was accepted.

REPORT OF COMMITTEE ON MEDICAL SCHOOL–AFFILIATED HOSPITAL RELATIONSHIPS

DONALD J. CASELEY

The following report was submitted by the Committee on Medical School–Affiliated Hospital Relationships as a result of their meeting on Thursday, October 29.

Discussions aimed at identifying the objectives of this Committee established the following:

It be recommended to the Executive Council that the Committee develop programs designed to

1. improve the effectiveness of teaching hospitals in medical education; and
2. promote greater understanding between the administrators of medical schools and teaching hospitals.

In order that these objectives might be implemented, the Committee recommends the following steps which are examples of the type of action which should be taken:

1. If the Executive Council should deem it pertinent and desirable, it would direct the Section to adopt by-laws for its more effective operation, together with such rules and regulations as may be necessary.
2. There might be developed a continuous inventory of teaching hospital facilities that are available in institutions which are members of the A.A.M.C.
3. Insofar as the Section members could be effective, the Association might make use of the special competence of this group in the research projects of the Association or in liaison activities such as government relations, congressional testimony, etc.
4. The Executive Council might wish to make available additional pertinent information for the Section members so that they may become better acquainted with the full program of the A.A.M.C.
5. In view of pressures from many sources which are developing, the Executive Council might give consideration to amending the present limit of one one teaching hospital designated by the dean to represent each medical school. It is felt that for matters of voting, representation on the Executive Committee and holding of office, only one principal member representing each school be selected by the dean but where several principal teaching hospitals serve the medical school's teaching needs, associate members be appointed with an upper limit of three (or five) per school be imposed.

It was recommended further that, as an immediate and practical point of action, the Section meet concurrently with the medical educators and that at least one session of the general program be regarded as a conjoined session.

In conclusion, it was moved, seconded and approved unanimously that:

1. The Committee express its appreciation to the Planning Committee for the Annual Meeting for including on the program of the plenary session a subject of direct concern to the teaching hospital (Dr. Snoke's paper "The Teaching Hospital: Its Conflicts and Its Responsibilities").
2. Appreciation be expressed to the Executive Council for the establishment of the Committee on Medical School–Affiliated Hospital Relationships.

The report of the Committee was accepted and referred to the Executive Council for implementation.

Third Annual Meeting of The Continuing Group on Student Affairs

October 31–November 1, 1959

The Continuing Group on Student Affairs, which brings together those people in the medical schools who are most concerned with recruitment, selection and counseling of medical students, had its Third Annual Meeting on October 31 and November 1. An outgrowth of the 1956 Teaching Institute, the Continuing Group devoted 2 crowded half-days to scientific papers, small group discussions, and an Executive Session in which the participants dealt primarily with topics already considered at Regional Meetings, which are also held annually in five sections of the country.

The papers presented this year were by John T. Cowles (Pittsburgh)—"The Appraisal of Student Performance in Medical School"; William V. Clemmans (The National Board of Medical Examiners)—"Analysis of National Board Examination Scores"; Lee Powers (A.A.M.C.)—"Medical Student Finances"; Helen Hofer Gee (A.A.M.C.)—"Relationships between Performance on National Board Examinations, MCAT Scores, and Grades at Three Selected Medical Schools"; and Charles F. Schumacher (A.A.M.C.)—"Ability, Interest and Personality Characteristics of Future Medical School Teachers and General Practitioners."

In the interest of accurate recording of applicant data, the Continuing Group has developed and adopted at the meeting a precise definition of an applicant and has also made good progress toward revision of the "Traffic Rules," which were created during the chaotic circumstances after World War II. It is felt that the term "Traffic Rules" is interpreted by some to mean that A.A.M.C. is a policeman empowered to enforce its regulations. The new statement of policies in regard to applications and acceptances is being developed in a climate of very willing cooperation by virtually all medical schools, and will be called "Recommended Acceptance Procedures" to emphasize the fact that A.A.M.C. encourages co-operative endeavor in the field of medical education but has no authority or desire to interfere with the administrative functions of individual schools.

Plans for the Annual Meeting were made by the Subcommittee on Student Affairs of the A.A.M.C. Committee on Research and Education. The Subcommittee members, who also served as Chairmen for the small group discussions, are: Samuel P. Asper, Jr. (Johns Hopkins); John L. Caughey, Jr. (Western Reserve); John F. Mahoney (Indiana); Woodrow Morris (Iowa); James R. Schofield (Baylor); and Lyman M. Stowe (Stanford). William Hubbard, formerly of New York University, resigned from the Subcommittee when he moved to Michigan.

Second Annual Business Meeting of the Medical School–Teaching Hospital Section

Edgewater Beach Hotel, Chicago, Illinois
October 31, 1959

The second annual business meeting of the Medical School–Teaching Hospital Section of the A.A.M.C. met on October 31, 1959, with Dr. Gerhard Hartman presiding.

Mr. Duane E. Johnson, Secretary, read the following minutes of the first business meeting, which were adopted by unanimous vote:

At the opening of the Business Session on October 11, 1958, at 10:45 A.M., the following resolution was presented as suitable for consideration at that time: "Resolved, that it is the sense of this meeting that a section of the Association of American Medical Colleges to be known as the Medical School-Teaching Hospital Section should now be formed in Philadelphia on this eleventh day of October, 1958." This resolution, a necessary parliamentary step before election of officers could take place, was seconded and re-stated by the Chair. It was declared open for amendment and debate. There being none, it was put to a vote and unanimously carried.

The Chair then announced that this resolution in itself did not constitute the creation of a Section; rather, the Chair called on Dr. Lowell T. Coggeshall, president of the Association of American Medical Colleges, who was present, to convey it to the parent body for consideration and action.

Dr. Coggeshall took the rostrum and indicated that he would undertake such action. (The hospital executives present expressed their appreciation to Dr. Coggeshall in a vigorous and enthusiastic manner.)

The chairman of the Nominating Committee, Dr. Frank Bradley, administrator of Barnes Hospital at the Washington University School of Medicine, was then called to present a slate of officers for this Section during the ensuing year. Those elected were the same officers that served pro tem, plus three members to constitute, with the officers, an Executive Committee. The slate was called as follows:

Chairman, Gerhard Hartman, Ph.D., Superintendent, University Hospitals, Iowa City, Iowa.

Vice Chairman, Dr. Donald J. Caseley, Medical Director, University of Illinois Research and Education in Hospitals.

Secretary, Duane E. Johnson, Hospital Administrator, University of Nebraska College of Medicine.

Dr. Lee D. Cady, Manager of the Veterans Administration Hospital, Houston, Texas.

Dr. J. E. Sharpe, Superintendent, Toronto General Hospital.

Dr. Philip D. Bonnet, Administrator, Massachusetts Memorial Hospital.

The Chair announced that if the officers and members of the A.A.M.C. did not accept this resolution, the present officers would be serving a section "in limbo."

Mr. Lester Richwagen, director of the Mary Fletcher Hospital, and the administrator nominated by Dr. George A. Wolf, dean of the University of Vermont College of Medicine, presented the following resolution: "Resolved, that the Chairman be asked to communicate properly the gratitude and appreciation of the hospital administrators and directors to the officers and Executive Council of the A.A.M.C. for the opportunity and privilege of attending this interim meeting. We feel that it has been very much worth while."

The resolution was seconded and unanimously carried. Dr. Coggeshall, in his remarks, volunteered that he would convey this at the Association meeting.

The purpose for the establishment of the Medical School-Teaching Hospital Section is the crea-

tion of a forum for the study of the role of teaching hospitals in medical education and the promotion of greater understanding between administrators of medical schools and teaching hospitals.

At no time has there been a hint of any desire to constitute a group undertaking executive actions or forming overall statements of principle or policy either nationally or locally.

Dr. Donald J. Caseley delivered the following report on the A.A.M.C. Committee on Medical School–Affiliated Hospital Relationships:

The recently constituted committee of the Association of American Medical Colleges entitled the Medical School-Affiliated Hospital Relationships Committee, has had two meetings. The first one, held during the 1959 Congress on Medical Education and Licensure, had two basic objectives, I believe—first, the conventional one of getting acquainted, and second, to give at least passing consideration to a matter which was to be taken up on the afternoon of the meeting. Not being sure of our status, since this matter was to be debated and the decision was to be achieved during the course of the afternoon, the agenda dealt primarily with the problems of what, if any, status this organization should have—section status, committee or other.

I believe you are all now aware and pleased as we that the institution representatives (the deans) at that meeting voted unanimously to establish this as an official section of the Association.

The second meeting of the Committee was held two nights ago. (The report of this meeting may be found on p. 627 of these minutes.)

Now this report is to be forwarded to the Executive Council of the Association, our parent body. However, with the Section vitally concerned, this is a two-way communication street obviously, and it is for this reason that this report is being presented to you prior to its official submission to the Executive Council. If there are points which require clarification—if there are any questions—I believe that it would be appropriate to raise them at this time.

(There were none, and Dr. Caseley's report was accepted by the membership.)

Dr. Hartman then announced that (*a*) there would be a meeting of the new Executive Committee that afternoon, and (*b*) the next Annual Meeting of the Association would be held in Miami, Florida, October 29–November 3, 1960.

The following report was offered by Dr. Henry Pratt, chairman of the Nominating Committee:

Since there are no bylaws and no precedents, we had a very difficult problem with which to deal, and we came to the conclusion that there was desirability in having a certain amount of continuity in the control of the affairs of the section, and to that end we thought it would be wise if the Vice-Chairman should step up to the position of Chairman, that the immediate Past Chairman should serve for one year on the Executive Committee, and that the Secretary should continue in office for 3 years. The present term of office for the Executive Committee also is three years. Such an arrangement gives a 3-year responsibility to each officer and member of the Executive Committee and provides for an experienced and continuous management of the affairs of the Section.

We also had a very serious problem in how one should select officers. We have wide geographical distribution. About half of the medical schools represented here are on the eastern seaboard. There are about seven or eight on the Pacific Coast and the balance in the mid-section of the country. We also had to take into consideration tax-supported institutions as against voluntary institutions, and the matter of lay versus M.D. administrators, so we had many problems with which to wrestle. As a result of our deliberations we want to recommend for Chairman, Dr. Donald J. Caseley; for Vice Chairman, Dr. Albert W. Snoke from Yale; the Secretary, Mr. Duane E. Johnson from Nebraska; and for 1 year on the Executive Committee which will add one position to the Executive Committee—as immediate Past Chairman, Dr. Gerhard Hartman; and for a 3-year term on the Executive Committee, Mr. Alvin J. Binkert of Columbia University.

(The report of the Nominating Committee was approved.)

Dr. Hartman then turned the chair over to Dr. Caseley, and the meeting was adjourned at Noon.

(Appendix I)

Articles of Incorporation Under the Illinois General Not for Profit Corporation Act

1. The name of the corporation is Association of American Medical Colleges.

2. The period of duration of the corporation is perpetual.

3. The address of its initial registered office in the State of Illinois is 185 North Wabsh Avenue, Chicago 1, Illinois (Cook County). The name of its initial registered agent at said address is Dean F. Smiley.

4. The first Board of Directors shall be eleven in number their names and addresses being as follows:

Vernon W. Lippard, Yale University School of Medicine, 333 Cedar Street, New Haven 11, Connecticut

Robert A. Moore, University of Pittsburgh, Pittsburgh 13, Pennsylvania

John McK. Mitchell, University of Pennsylvania School of Medicine, 36th and Hamilton Walk, Philadelphia 4, Pennsylvania

John B. Youmans, Vanderbilt University School of Medicine, Nashville 5, Tennessee

Stanley E. Dorst, University of Cincinnati College of Medicine, Eden and Bethesda Avenues, Cincinnati 19, Ohio

Stockton Kimball, University of Buffalo School of Medicine, 3435 Main Street, Buffalo 14, New York

John Z. Bowers, University of Utah College of Medicine, 105 Medical Building, Salt Lake City 1, Utah

George N. Aagaard, University of Washington School of Medicine, Seattle 5, Washington

Walter R. Berryhill, University of North Carolina School of Medicine, Chapel Hill, North Carolina

Lowell T. Coggeshall, University of Chicago, 950 E. 59th Street, Chicago 37, Illinois

Thomas H. Hunter, University of Virginia School of Medicine, Charlottesville, Virginia

5. The purpose for which the corporation is organized is the advancement of medical education. The purpose is exclusively educational, scientific, and charitable. Any net earnings of the corporation or of any of its activities shall be devoted exclusively to such purpose and shall not inure to the benefit of any individual. There shall be no shareholders of the corporation.

6. The Board of Directors shall be known as the Executive Council, and the directors shall be called Executive Council Members. The Executive Council shall have the complete direction and control of the property and affairs of the corporation, and the acts of the Executive Council shall be the acts of the corporation for all purposes.

7. The membership of the corporation shall consist of a class known as Institutional Members and such other classes, if any, as shall be provided in the By-Laws. Such other classes of members shall have no right to vote, and no action of theirs shall be necessary for any corporate action. The membership of all classes shall consist of such persons or institutions as may from time to time be designated pursuant to the By-Laws.

8. In the event of dissolution of the corporation, all of its assets (after payment of, or provision for, all its liabilities) shall be transferred or conveyed to one or more domestic or foreign corporations, societies or organizations engaged in activities substantially similar to those of the corporation, to be used by them for the purpose set forth in Article 5.

9. Provided, however, the purposes stated in Article 5 shall not be deemed to authorize the corporation to receive any child for care or placement apart from its own parent or guardian, nor shall the corporation act as or perform any of the functions of a post-secondary or vocational institution.*

* This sentence has been inserted to avoid any question of compliance or non-compliance with certain Illinois legal requirements.

By-Laws

Section 1. Institutional Membership.—

a) The Institutional Members shall be such medical schools and colleges of the United States, operated exclusively for educational, scientific and charitable purposes, as the Institutional Members shall from time to time elect at an annual meeting by the affirmative votes of three-fourths of the Institutional Members present. The first Institutional Members shall be those medical schools and colleges which were on January 1, 1955, Institutional Members of an unincorporated voluntary association called the Association of American Medical Colleges.

b) Standards. Each institutional member shall conduct its educational program in conformity with the following standards of admission and curriculum:

Admission. Students may be admitted either by:

(1) Satisfactory completion of a minimum of collegiate instruction based on a good general education including the attainment of competence in English, Biology, Chemistry and Physics. For most students this will require three or four years of college education. Superior students may, in selected cases, be considered acceptable for admission to medical school after only two years of collegiate work. In all instances, the final judgment as to the admissibility of those superior students will rest with the individual medical school; or

(2) Examination. Candidates who have completed two years of collegiate instruction and present evidence of general scholarship of high order, but who lack the credits in certain of the required subjects, may be admitted on passing examination in these subjects.

Curriculum. The fundamental objective of undergraduate medical education shall be to provide a solid foundation for the student's future development. This objective can best be achieved, first by providing the proper setting in which the student can learn, and secondly, by stimulating the student to use this setting to the best advantage.

Undergraduate medical education must permit the student to learn fundamental principles applicable to the whole body of medical knowledge to acquire habits of reasoned and critical judgment of evidence and experience, and to develop an ability to use these principles wisely in solving problems of health and disease. It should not aim at presenting the complete, detailed, systematic body of knowledge concerning each and every medical and related discipline.

Undergraduate medical education can achieve these aims only if the student plays an active role. It must provide incentive for active learning on the part of the student. This can best be achieved by giving him definite responsibility in real day-to-day problems in health and disease. This responsibility must, of course, be carefully graded to the student's ability and experience and must be exercised under careful guidance by the faculty.

To implement the fundamental objective, undergraduate medical schools must provide an opportunity for the student: (1) to acquire basic professional knowledge, (2) to establish sound habits of self-education and of accuracy and thoroughness, (3) to attain basic clinical and social skills, (4) to develop sound attitudes, (5) to gain understanding of professional and ethical principles. These five requirements are obviously not distinctly separable, but are mutually interdependent.

Given incentive and opportunity to learn and guidance toward the grasp of principles, with the problems of health and disease as a frame of reference, it is hoped that the student will build the necessary foundation for his career in medicine, be it practice (general or limited), teaching, research, or administration. The student should develop into a responsible professional person, and be able to gain and maintain the confidence and trust of those whom he treats, the respect of those with whom he works, and the support of the community in which he lives.

The curriculum should extend over a period of at least 4 academic years.

c) A medical school or college desiring Institutional Membership or Affiliate Institutional Membership in this Association shall make application in writing, giving such details of organization, resources and curriculum as may be prescribed by the Executive Council and expressing its readiness to be inspected from time to time. The Executive Council shall consider the application and report its findings and recommendation at the next annual meeting of members for action.

d) The Executive Council shall appoint representatives to inspect schools and colleges applying for membership or reinstatement, and also those in membership in the Association at its discretion. The inspection reports, together with recommendations, shall be furnished a responsible authority in the school or college, and shall be sent to all members of the Executive Council.

e) All members shall conform to the Articles of Incorporation, By-Laws and standards of admission and curriculum, as they may be changed from time to time. Any Institutional Member or Affiliate Institutional Member, which, on inspection, has been found not to conform to the then-existing Articles, By-Laws or standards may be warned by being placed on "confidential probation" for a period of two years by action of the Executive Council or may, after a full hearing before the Executive Council, by action of the Executive Council and concurring action of a meeting of the Institutional Members, be (1) placed on "open probation," (2) dropped from membership, or (3) removed from probation and reinstated.

Section 2. Affiliate Institutional Membership.—There shall be a class of members entitled Affiliate Institutional Members, consisting of those medical schools and colleges which were on January 1, 1955, Affiliate Institutional Members of an unincorporated voluntary association called the Association of American Medical Colleges and such Canadian medical schools and colleges as the Institutional Members shall from time to time elect. Affiliate Institutional Members shall have the same qualifications as Institutional Members and shall be elected in the same way, but shall have no right to vote.

Section 3. Emeritus, Individual, Sustaining and Contributing Membership.—There shall be four classes of members, known as Emeritus Members, Individual Members, Sustaining Members, and Contributing Members. The first individual members shall be those persons who were on January 1, 1955, Individual Members of an unincorporated voluntary association called the Association of American Medical Colleges.

a) Emeritus Membership. Emeritus Membership shall be reserved for those faculty members, deans and other administrative officers of medical schools and universities, who have demonstrated unusual capacity and interest in dealing with the problems and in contributing to the progress of medical education, and who, because of the retirement policies of their medical schools or universities, are no longer active in medical education. Any Institutional, Affiliate Institutional, Emeritus, Individual or Sustaining Member may nominate any person for Emeritus Membership. Nominations shall be directed to the Executive Council. After approval of qualifications by the Executive Council, Emeritus Members shall be elected in the same manner as Institutional Members. Emeritus Members shall not pay dues; they shall have the privileges of the floor in all discussions but shall not be entitled to vote.

b) Individual Membership. Individual Members may be any persons who have demonstrated over a period of years a serious interest in medical education. After their qualifications have been approved by the Executive Council, they shall be elected in the same manner as Institutional Members. They shall have the privileges of the floor in all discussions but shall not be entitled to vote.

c) Sustaining and Contributing Membership. Sustaining and Contributing Members may be any persons or corporations, who have demonstrated over a period of years a serious interest in medical education. After their qualifications have been approved by the Executive Council, they shall be elected in the same manner as Institutional Members. They shall have the privileges of the floor in all discussions but shall not be entitled to vote.

Section 4. Meetings of Members.

a) The annual meeting of all members shall be held at such time in October or November and at such place as the Executive Council may designate.

b) Special meetings of all members or of members of any class may be called by the President, by a majority of the voting members of the Executive Council or by ten Institutional Members.

c) All meetings shall be held at such place in Illinois, or elsewhere, as may be designated in the notice of the meeting. Not less than 20 or more than 40 days before the date of the meeting written or printed notice stating the day, hour and place of the meeting shall be delivered, either personally or by mail, to each member entitled to attend. In the case of a special meeting, the purpose or purposes for which the meeting is called shall be stated in the notice of the meeting.

d) Each Institutional or Affiliate Institutional Member may send to meetings of members as many representatives as it desires, each of whom shall have the privilege of the floor in all discussions; but only one representative of each Institutional Member shall be entitled to vote, who shall be the Dean of the Institutional Member, unless some other representative or proxy is appointed

by the Institutional Member. The Association may conclusively rely on the written statement of the Dean of a school or college that he or some other person has been properly designated as its representative or proxy. No designation or proxy shall be valid after 11 months from the date of its execution unless it provides otherwise.

e) Any action that may be taken at a meeting of members may be taken without a meeting if approved in writing by the Dean or properly designated representative of all Institutional Members.

f) A majority of the Institutional Members shall constitute a quorum. Action, except on the admission of members, shall be by majority vote at a meeting at which a quorum is present, provided that if less than a quorum be present at any meeting, a majority of those present may adjourn the meeting from time to time without further notice.

Section 5. Officers.—The officers shall be a President, a President-Elect, a Past President, a Vice President, an Executive Director, a Secretary and a Treasurer. The President-Elect and Vice President shall be elected for one-year terms at the annual meeting of the members, the President-Elect to become President upon his installation in the course of the annual meeting a year after he has been elected. The Secretary and Treasurer shall be elected for three-year terms. Any officer may be removed by the members whenever they deem it to be in the best interest of the Association.

The Executive Director shall be appointed by the Executive Council.

The officers shall have such duties as are implied by their respective titles or assigned to them by the Executive Council or by action of a meeting of the Institutional Members. If the President dies, resigns or for any other reason ceases to act, the Vice President shall immediately become President and shall serve for the remainder of that term.

The first officers shall be as follows:

President, Vernon W. Lippard
President-Elect, Robert A. Moore
Past President, Stanley E. Dorst
Vice President, John McK. Mitchell
Treasurer, John B. Youmans
Secretary, Dean F. Smiley
Director of Studies, John M. Stalnaker

Section 6. Executive Council.—

a) The Executive Council (also referred to as the Council) is the board of directors of the Association, and shall manage its affairs.

b) The Council shall consist of six elected members, the five elected officers and the Immediate Past President who shall be ex officio members with voting rights and the Executive Director who shall be an ex officio member without voting rights.

c) Of the six elected members, two shall be elected annually by the Institutional Members at the annual meeting, each to serve for 3 years or until the election and installation of his successor. An elected Council member shall not serve more than two consecutive terms, but an unexpired term, unless served for at least 2 years or a term as an ex officio member, shall not be regarded for this purpose as a term.

d) The ex officio voting members shall consist of the elected officers and the Immediate Past President during the year after he was President. The Executive Director shall be the only member without vote but he shall attend all Council meetings, except closed executive sessions.

e) The annual meeting of the Council shall be held immediately following the election of council members at the annual meeting of members and at the same place. It shall elect its own Chairman.

f) Meetings of the Council may be called by the President or any two voting Council members, and written notice thereof, unless waived, shall be mailed to each Council member at his home or usual business address not later than the tenth business day before the meeting.

g) A quorum of the Council shall be a majority of the voting Council members.

h) The Council may fill vacancies in its own membership or among the officers for the period until the next annual meeting of members.

i) The first elected members of the Council shall be:

John Z. Bowers, term expiring 1955
Stockton Kimball, term expiring 1955
George N. Aagaard, term expiring 1956
Walter R. Berryhill, term expiring 1956
Lowell T. Coggeshall, term expiring 1957
Thomas H. Hunter, term expiring 1957

j) The Council, by resolution adopted by the vote of a majority of the voting Council members in office, may designate an Administrative Committee to act during intervals between meetings of the Council, consisting of three or more voting Council members, which committee, to the extent provided in the resolution, shall have and exercise the authority of the Council in the management of the Association; but the designation of such a committee and the delegation to it of authority shall not relieve the Council, or any member of the Council, of any responsibility imposed upon them by law.

Section 7. Waiver of Notice.—Whenever any notice whatever is required to be given under the provision of these By-Laws, a waiver thereof in writing signed by the persons entitled to such a notice, whether before or after the time stated therein, shall be deemed equivalent to the giving of such notice.

Section 8. Seal.—The Council may adopt a seal for the Association, but no seal shall be necessary to take or to evidence any Association action.

Section 9. Fiscal year.—The fiscal year of the Association shall be from July 1 to June 30.

Section 10. Dues.—The annual dues shall be:

Institutional Members (4-year schools)	$1,000
Institutional Members (2-year schools)	500
Affiliate Institutional Members	250
Individual Members	10
Sustaining Members	1,000
Contributing Members	200 to 500

Section 11. Amending By-Laws.—These By-Laws may be altered, repealed, or amended, or new By-Laws adopted by a two-thirds vote of the Institutional Members present at any meeting of Institutional and Affiliate Institutional Members for which 30 days' written notice has been given.

Section 12. Amending Articles of Incorporation.—The Articles of Incorporation may be altered, repealed or amended by the Institutional Members in the manner provided by statute.

(Appendix II)

Officers of the Association and Members of the Executive Council 1959–1960

President and Council Chairman: THOMAS H. HUNTER
University of Virginia School of Medicine
President-Elect: GEORGE N. AAGAARD.....University of Washington School of Medicine
Immediate Past President: JOHN MCK. MITCHELL
University of Pennsylvania School of Medicine
Vice-President: DONALD G. ANDERSON
University of Rochester School of Medicine and Dentistry
Treasurer: J. MURRAY KINSMAN.....University of Louisville School of Medicine
Secretary: RICHARD H. YOUNG.....Northwestern University Medical School
Executive Council, 1962: ROBERT J. GLASER....University of Colorado School of Medicine
Executive Council, 1962: ROBERT C. BERSON.....Medical College of Alabama
Executive Council, 1961: JOHN E. DEITRICK.....Cornell University Medical College
Executive Council, 1961: JOHN F. SHEEHAN
Stritch School of Medicine of Loyola University
Executive Council, 1960: STANLEY OLSON.....Baylor University College of Medicine
Executive Council, 1960: GEORGE A. WOLF, Jr..University of Vermont College of Medicine

Office of the Executive Director:
Executive Director.....WARD DARLEY
Associate Director.....LEE POWERS
Director of Business Affairs.....JOHN L. CRANER

Division of Research:
Director of Research.....HELEN H. GEE
Assistant Director of Research.....CHARLES F. SCHUMACHER
Research Associate.....EDWIN B. HUTCHINS

Division of Operational Studies:
Director of Operational Studies.....LEE POWERS
Assistant Director of Operational Studies.....J. FRANK WHITING

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NEWS FROM THE MEDICAL SCHOOLS

Albany

Dr. JOHN J. POWERS, assistant professor of community health and associate in medicine, died suddenly April 17 at the age of 51. A member of the faculty since 1953, Dr. Powers was Albany County Health Commissioner and was a member of the attending staff at Albany Hospital and St. Peter's Hospital.

Baylor

A gift of $300,000 by the J. Newton Rayzor family for a new student center at the university's College of Medicine was announced recently by Dean STANLEY W. OLSON. To be located near the medical research building, the structure will house a dining and recreation area, faculty dining room, exhibit area, student and faculty meeting place, and other facilities common to a student center.

Dr. HARRIS BUSCH, of the University of Illinois College of Medicine, will become professor of pharmacology and chairman of the department at Baylor's College of Medicine in the Texas Medical Center July 1. Prior to his appointment at Illinois in 1955, Dr. Busch served on the Yale faculty of medicine from 1952–55 and was associate physician at the Grace-New Haven Community Hospital, University Service, from 1954–55. He holds the M.D. degree from the University of Illinois and the Ph.D. from the University of Wisconsin.

Boston

Dr. ROBERT W. WILKINS, professor of medicine and former president of the American Heart Association, has been appointed chairman of the school's department of medicine and physician-in-chief and director of Evans Memorial department of clinical research at the Massachusetts Memorial Hospitals. Dr. Wilkins, who received the Albert Lasker Award of the American Public Health Association for his "distinguished contributions to the control of heart and blood vessel diseases" in 1958, has served as acting chairman of the school's department of medicine since September 1. Prior to his first appointment to the Boston faculty in 1940, Dr. Wilkins taught at the Harvard Medical School and Johns Hopkins University Medical School.

Bowman Gray

Dr. HAROLD D. GREEN has been named Gordon Gray professor of physiology and Dr. NORMAN M. SULKIN, the William Neal Reynolds professor of anatomy, thus filling two of three named professorships in basic medical sciences recently established in the School of Medicine by a grant of $500,000 from Mrs. Anne Reynolds Tate and Mrs. Nathalie Gray Bernard. A third professorship, the Odus M. Mull professorship of biochemistry, is expected to be filled in the near future.

Dr. Green earned his M.D. degree from Western Reserve University School of Medicine and served on that faculty as instructor in physiology until 1935 when he joined the Yale faculty of medicine. He also has held a position on the medical faculty of the University of Tennessee College of Medicine and served as guest professor at Massachusetts Institute of Technology. In 1945 Dr. Green came to Bowman Gray as professor of physiology and pharmacology and director of the department.

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By HOWARD A. RUSK, M.D. and 36 collaborators; with the editorial assistance of EUGENE J. TAYLOR, A.M. 1958, 572 pages, 6¾" × 9¾", 172 figures. Price, $12.00.

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By ALFRED R. SHANDS, JR., B.A., M.D.; in collaboration with RICHARD B. RANEY, B.A., M.D. 1957, 5th edition, 725 pages, 5½"×8½", 214 illustrations. Price, $9.75.

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A native of Massachusetts, Dr. Sulkin received the B.A. and master's degrees at the University of Alabama and the Ph.D. at the University of Iowa. He joined the Bowman Gray faculty in 1952 as an associate professor of anatomy. He has been a full professor since 1957 and assumed his present position as director of that department in 1959.

Cincinnati

Dr. WALTER C. LANGSAM, president of the University of Cincinnati, announced the appointment of Dr. ALBERT B. SABIN as the university's first distinguished service professor, a new designation created by the UC board of directors in recognition of Dr. Sabin's ". . . achievements in alleviating the scourges of such virus diseases as poliomyelitis, Japanese B-encephalitis, and dengue fever, and as an eminent authority in research pediatrics." Dr. Sabin received this honor at a recent Founder's Day event on the UC campus. He is professor of research pediatrics in the College of Medicine and fellow of Children's Hospital Research Foundation.

Colorado

Dr. KERR LACHLAN WHITE, associate professor of preventive medicine at the University of North Carolina School of Medicine, will become professor and head of the department of preventive medicine at the University of Colorado School of Medicine on July 1.

A 1949 graduate of McGill University Medical School, Dr. White served his internship and residency at the Mary Hitchcock Memorial Hospital, Dartmouth Medical School, and then spent a year as a research fellow in the departments of medicine and psychiatry at McGill. He joined the North Carolina faculty in 1953 and during the past year he has been in England pursuing his studies on patient care in leading departments of preventive medicine.

Dr. HENRY SWAN, professor and head of the department of surgery, participated in the 27th Congress of Surgeons of the U.S.S.R. at the invitation of the Minister of Health of the Russian government. He presented a paper on "The Use of Hypothermia and Total Body By-Pass in Arterial Surgery" during the Moscow meeting, which was held May 22–28. This year marks the first time the Russians have invited a group of U.S. surgeons to one of their meetings. Expenses for the trip were borne by the U.S.S.R.

Cornell

Having conducted a study of ailments suffered by this country's tourists abroad, the Cornell University Medical College next summer will perform similar research on about 1,000 foreign college students in the United States. The researchers, under the direction of Dr. B. H. KEAN, associated professor of tropical medicine, aim to discover what makes tourists ill. Work has been conducted in Europe, Mexico, and Hawaii during the past six years.

Students enrolled in various colleges and universities, under the auspices of the International Institute of Education, will participate in the tourist illness program. They will provide Dr. Kean and his staff with statistical information about illnesses they develop while in the United States. The data they furnish will include length and severity, characteristics and recurrences of illnesses. Cornell associates said it will mark the first time that information has been compiled on ailments of visiting foreigners. The Mexican Government and the U.S. Ambassador to Mexico have cooperated with the Cornell researchers, in addition to such organizations as the Travelers Health Institute, Upjohn and Company, Eastern Airlines, Eaton Laboratories, Becton, Dickinson and Company, and the Howard Bayne Fund of Cornell.

Duke

Dr. DERYL HART, professor and chairman of the department of surgery, has been elected president pro-tem of the university, effective July 1. He will succeed Dr. A. HOLLIS EDENS, president of Duke since 1949, who submitted his resignation recently. Dr.

Hart will serve as temporary head of the university until a permanent president is named. One of the original Duke Medical Center faculty members, Dr. Hart has been surgery department chairman since the opening of the Center in July 1930. He is a graduate of the Johns Hopkins School of Medicine, where he served some eight years in various teaching capacities before coming to Duke.

Illinois

Dr. HERBERT E. LONGENECKER, vice-president in charge of Chicago Professional Colleges, will be one of five alumni honored by Pennsylvania State University for outstanding achievement at reunion exercises June 18. Dr. Longenecker, a 1933 graduate of Penn State, is president-elect of Tulane University. Dr. Longenecker serves on several federal agencies and is currently chairman of the medical committee of the Advisory Council to the Chief Chemical Officer, Department of the Army. He is also active in civic affairs, including membership on the board of directors for United Cerebral Palsy of Chicago.

Iowa

Dr. W. B. BEAN, professor and head of internal medicine, has been elected chairman of the Board of Regents of the National Library of Medicine. A new building for the library is under construction at Bethesda, Md., and dedication has been set for some time in the summer of 1961.

Kansas

The "Lewis and Hubbard Traveling Professorship of Geographical Pathology," honoring the memory of two benefactors of the university, has been established for Dr. JOHN HIGGINSON of the department of pathology and oncology. Dr. Higginson's research interest covers the pattern of disease and its pathological manifestations environment, as related to mode of life and sociological situations—utilizing this approach in his investigations of cancer, heart and liver diseases. Prior to joining the Kansas medical faculty in March 1958, he was head of the

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geographical pathology unit of the South African Institute for Medical Research in Johannesburg. He is a consultant pathologist in the World Health Organization, and a member of the geographical pathology committee of the International Union against cancer. He will continue his teaching and research interests on campus, but will also be responsible for developing cooperative research in his study between the University of Kansas and medical institutions abroad.

Nebraska

A $2.5 million grant from the Eugene C. Eppley Foundation, Inc., has been made to the university for the creation of the Eugene C. Eppley Institute for Research in Cancer and Allied Diseases. The establishment of the Institute involves the construction of a six-story structure, which, with equipment, will cost $1,800,000. Construction is expected to begin in the fall. The building will be connected with University Hospital by tunnels. In announcing the grant, directors of the Eppley Foundation said the work of the Institute will have a three-fold objective: to gain better understanding of the causes of cancer and allied diseases; to assist in the improvement of methods for diagnosis of cancer and allied diseases; and to assist in the improvement of methods for the treatment and prevention of cancer and similar disorders. The foundation spokesman said that only $650,000 of the grant will go towards the building and equipment. Further financing will come from the Public Health Service and from the University College of Medicine quarter-mill building levy. The balance of the Eppley Foundation gift, or $1,850,000, plus an estimated $500,000 in interest earnings, will be used over a 20-year period to establish the Institute's research program.

New York Medical

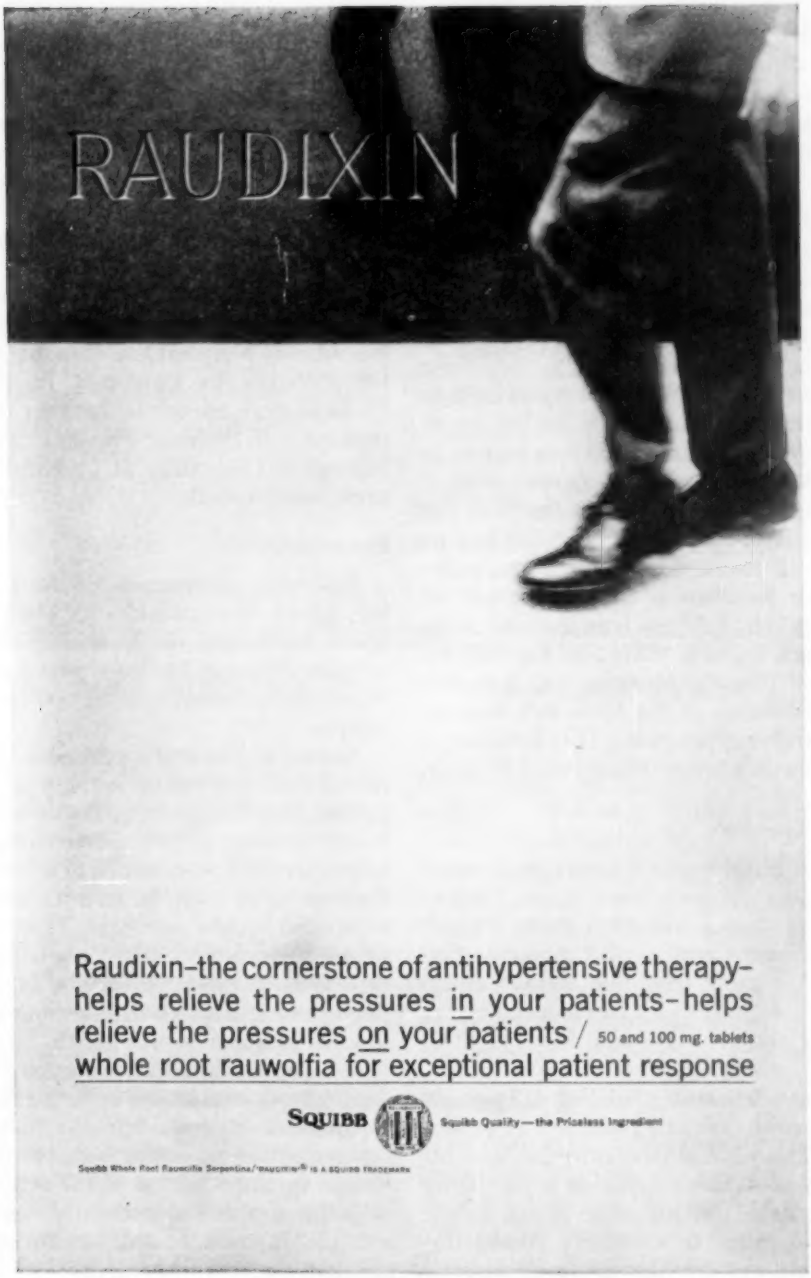
Three new department chairmen were named recently to the New York Medical College faculty in an announcement made by the school's president and dean, Dr. RALPH E. SNYDER.

Dr. WARD PIGMAN will leave the Alabama Medical Center after 11 years on the faculty to become professor of biochemistry and chairman of the department; Dr. RACHMIEL LEVINE, currently professor of medicine at Chicago Medical School and professorial lecturer in physiology at the University of Chicago, was named professor and chairman of the department of medicine; and Dr. ALFRED M. FREEDMAN, associate professor of psychiatry, State University of New York, Downstate Medical Center, will become professor and chairman of the department of psychiatry.

Dr. Pigman has been an associate professor of biochemistry at Alabama since 1949 and is a consultant for the National Institutes of Health, United States Navy, and the National Research Council. He is also the inventor of "Niagara" starch and of the artificial mouth used for simulation of conditions in the mouth. Dr. Pigman succeeds Dr. ISRAEL KLEINER, who is retiring after serving New York Medical College for many years.

Dr. Levine, who will also serve as director of the department of medicine at the College's Flower and Fifth Avenue Hospitals and at Metropolitan Hospital, was a consultant for the National Science Foundation from 1956 to 1959, and since 1958 has served on the board of directors of the Foundation's Fund for Psychiatric Research in New Haven. As a member of the American Diabetes Association, he has served on the Council, the Committee on Oral Agents, and the Committee on Scientific Awards. The author of over 200 publications, Dr. Levine has also served on the editorial boards of *Metabolism* and *Excerpts Medical-Endocrinology*.

Dr. Freedman has served as clinical instructor in psychiatry at the New York University School of Medicine, psychiatric director of the League for Seriously Emotionally Disturbed Children, assistant in psychiatry at University Hospital, and as senior psychiatrist of the Child Psychiatry Service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of Bellevue Hospital. He has also served on several scientific Panels dealing with the emotional problems of physically handicapped children, and with childhood schizophrenia.

All of the appointees will assume their new posts at the end of this academic year.

New York University

Dr. DANIEL J. FELDMAN, associate professor of physical medicine and rehabilitation, has just returned from Chile where he was a guest of the Chilean Society of Rehabilitation in Valparaiso and the Post Graduate Medical School of the University of Chile in Santiago. During his visit Dr. Feldman gave 10 lectures in Valparaiso and four lectures in Santiago covering major aspects of physical medicine and rehabilitation for medical and co-professional personnel. In addition, he attended a conference in Santiago on socio-economic problems of chronic disease and disability. Dr. Feldman is on the staff of the New York University Medical Center's Institute of Physical Medicine and Rehabilitation in charge of the Institute's international training program. The Institute is under the direction of Dr. Howard A. Rusk.

North Carolina

A new blood research laboratory, named in memory of leukemia victim Frances Owen, has been constructed at the University of North Carolina with major portion of funds coming from the Hemo-Cardiac Foundation, Inc., which was founded by the victim's parents, Mr. and Mrs. Fred C. Owen.

The new laboratory building will provide space for the care and treatment of experimental animals and laboratory facilities for basic blood studies in addition to furnishing housing for a colony of some 40 hemophilic dogs. According to university administrators, these are the only group of animals anywhere in the world suffering from this disease, and they have been of untold value in the blood research work at Chapel Hill. Thus the new laboratory will make possible substantial expansion in the blood research program of the university.

Oregon

Dr. GEORGE STREISINGER will join Oregon's faculty of medicine September 1, as associate professor of biology in the Institute of Molecular Biology. Professor Streisinger is now with the Carnegie Institution of Washington, department of genetics, Cold Spring Harbor, New York.

He took his Ph.D. in bacteriology at the University of Illinois, was a post-doctoral fellow of the National Foundation for Infantile Paralysis at California Institute of Technology, and spent the year 1957–58 working with Professor Francis Crick at the Cavendish Laboratory at Cambridge University in England.

Pennsylvania

Dedication ceremonies for the $3.1 million Alfred Newton Richards Medical Research building of the University of Pennsylvania School of Medicine were held May 19, at special ceremonies on the university campus.

Named in honor of an "American scientist who has given of his intellect and inspiration to the University of Pennsylvania for a half a century," the seven story, four tower structure represents a new concept in the housing of scientific research activities, a university spokesman said. Three 45-foot square laboratory "studios" are situated on each level of the building, one in each of three towers, with all utilities and general services centered in the fourth, or central tower. The building will be occupied by the departments of microbiology; the Harrison department of surgical research; part of the department of physiology and the Henry Phipps Institute section of the department of public health and preventive medicine; and the Johnson Foundation for medical physics.

Dr. Richards, emeritus professor of pharmacology, was the university's vice-president in charge of medical affairs from 1939 to 1948. He is internationally known for his

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contributions to the basic knowledge of kidney function, and for his scientific leadership during World War II as chairman of the Committee on Medical Research of the U.S. Office of Scientific Research and Development. The AAMC honored Dr. Richards last year by awarding him the Abraham Flexner Award for Distinguished Service to Medical Education.

Pittsburgh

Dr. JONAS SALK, developer of the Salk polio vaccine and professor of experimental medicine, will leave the university sometime in 1961 to establish a multimillion dollar research institute in San Diego, Calif. The institute, according to Dr. Salk, is to be devoted primarily to basic biologic research but clinical research and immunologic investigation would not be excluded. The National Foundation will supply $1 million yearly to the Institute until a $10 million endowment fund has accumulated and in addition, will provide $1 million a year indefinitely for the basic operating costs. Dr. Salk said that none of the foundation money would be used for the research projects. These would be financed through grants to the individual investigators. The original buildings of the Institute would cost about $3 million with funds provided by sources not yet identified.

Rochester

Dr. GILBERT B. FORBES, professor of pediatrics, was elected president of the Society for Pediatric Research at its annual meeting at Swampscott, Mass., recently. The Society is a national organization for the stimulation of research in pediatrics, and is designed particularly as a forum for younger investigators in the field. Emphasis is mainly on current research.

Stritch

Dr. HERBERT E. SCHMITZ, chairman of the department of obstetrics and gynecology, died April 17, at age 59. Dr. Schmitz also was head of the obstetrics and gynecology department at Mercy Hospital. He was a director of the Lewis Memorial Maternity Hospital, a member of the board of the American Cancer Society, and had just recently been named president-elect of the American College of Obstetricians and Gynecologists.

Temple

Dr. O. SPURGEON ENGLISH, head of the department of psychiatry, announced the opening of a new 23-bed open floor unit at the Temple Medical Center for the treatment of combined mental and physical ills. A program to promulgate the concept of a "mental health check-up" also is planned. Although geared primarily to psychotherapeutic techniques, adjunctive treatment in the new section will include the use of drugs and electro-shock. Rooms have been outfitted in a modern decor and day-beds, in lieu of typical bedroom furniture, carry out a modern sitting-room atmosphere. A large solarium at one end of the floor will lend itself to occupational activities and group therapy.

Dr. JOHN R. MOORE, professor and head of the department of orthopedics, was elected president of the Academy of Orthopedic Surgeons. The Philadelphia Speech and Hearing Association named Dr. PHILIP E. ROSENBERG its president. Dr. Rosenberg is associate professor of audiology.

Vanderbilt

Dr. CALVIN W. WOODRUFF is resigning his position as professor of pediatrics at Vanderbilt to accept an appointment as professor of pediatrics and chairman of the department at the American University of Beirut. He will take over his new duties August 1. Dr. Woodruff came to Vanderbilt in 1947 from Yale University, where he had received both the B.A. and M.D. degrees. In 1952 he was one of 30 medical teachers to receive a Markle Scholarship and is the author of numerous articles dealing with the problems of nutrition.

Wayne State

A member of England's Royal College of Physicians will join the Wayne State faculty of medicine as associate professor of medicine. Dr. MADELINE K. KEECH, currently an Empire Rheumatism Council Fellow in the department of medicine at Leeds University, England, will take over her new duties July 1. Dr. Keech will teach and conduct research on the two crippling diseases, rheumatism and arthritis.

Yale

The Yale School of Medicine will celebrate next year the 150th anniversary of its founding with several special events. The anniversary year will open next fall and extend until June, 1961.

In announcing the celebration, Dr. VERNON W. LIPPARD, Dean, said the first major program will come October 28–29 with the regular University Alumni Board Convocation devoted to a review of medical developments, past and present. It was in October, 1810, that the Connecticut General Assembly granted a charter to Yale College for the establishment of the medical school, making it the sixth oldest medical institution in the country.

ITEMS OF CURRENT INTEREST

Foreign Fellowships Given to 29 Students

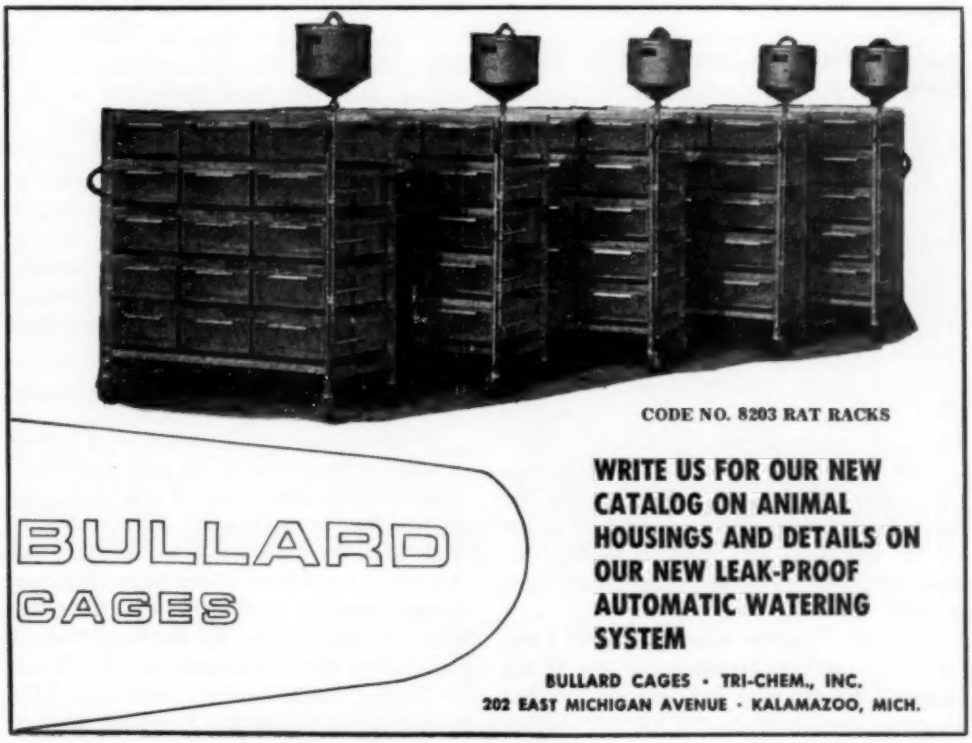
Twenty-nine senior medical students from the nation's medical schools were named winners of the Smith Kline & French Foreign Fellowships, the Association of American Medical Colleges announced recently in its first of a 3-year fellowship presentation.

This unique program, made possible by a generous grant to the AAMC from Smith Kline & French Laboratories, is designed to further medical education by sending future doctors to remote parts of the world for the purpose of providing them a "grass roots" experience with health and illnesses as they exist in these areas, as well as affording the selected Fellow an opportunity to play the role of individual ambassador or missionary by assisting in the continuing war against diseases in the backward regions of the world.

Beginning this summer, recipients will spend an average of 12 weeks working in such foreign locales as Thailand; Peru; the Philippines; Nigeria; Bolivia; Liberia; Southern Rhodesia; Iran; Libya; Ethiopia; India; Brazil; Nepal; Afghanistan; West Nile and Lambarene, Africa; Durban, South Africa; and Ghana, West Africa.

Carnegie Foundation Reprinting Flexner Report

Announcement has been made that the Abraham Flexner report of 1910, *Medical Education in the United States and Canada*,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has been reprinted by the Carnegie Foundation for the Advancement of Teaching, 589 Fifth Avenue, New York 17, N.Y.

Because of a limited amount of copies, distribution will be restricted to serious students of the history of medical education, according to a Foundation spokesman. Single copies will be available free of charge to scholars and research libraries.

Medical Schools $1.1 Million Richer

The American Medical Education Foundation recently distributed $1,198,334.79 to the nation's medical schools for current needs at each of the schools. The money, which was collected during 1959, is unrestricted as to use. The AMEF reports that last year a major portion of the funds allocated went for salary support. The schools also used the funds for new equipment; scholarships and student aid; research; matching other grants; and for aid in remodeling existing facilities. Some spent a portion of the grant to better their medical libraries.

John E. Fletcher Appointed to Merck Staff

John E. Fletcher, Chief of the Office of Research Information, National Institutes of Health, will become Manager of Public Relations of Merck Sharp & Dohme, division of Merck & Co., Inc., July 1. In his new position, Fletcher will direct all public relations activities of this division and of the West Point section of the Merck Sharp & Dohme Research Laboratories Division. He presently serves as director of public relations for the nation's major Governmental agency in medical research. He also serves as staff assistant to the Institute's Director, Dr. James A. Shannon. He joined the National Institutes in 1949 as consultant on the use of television and films in medical research and was appointed to his present post in 1953.

In 1959, Fletcher acted as Chief Press Officer for the U.S. Delegation to the World Health Organization in Geneva. He has served as consultant to the AAMC, Rockefeller Institute for Medical Research, and other medical and health organizations.

Executive Director Named

The Northern Association for Medical Education, which is working to develop a new medical school in St. Paul, Minnesota, has named John W. Hedback as its Executive Director. Hedback was Executive Secretary of the American Medical Education Foundation for the past six years.

Hospital Approved for Residency Training

Gracie Square Hospital at 420 East 76th Street, New York, has been approved for a two-year residency training program in psychiatry by the Council on Medical Education and Hospitals of the American Medical Association. The hospital, which has 232 beds, was opened March 22, 1959. It has four full-time psychiatrists and six residents in training.

Aid for Resident Physicians

The American College of Obstetricians and Gynecologists has set up a Higher Education Loan Program to enable resident physicians to complete their training in obstetrics and gynecology. Loans up to $5,000 will be made to help physicians through their specialty training period and early practice.

Further information may be obtained by writing to Mr. Donald F. Richardson, Executive Secretary, ACOG, 79 West Monroe Street, Chicago 3, Ill.

AHA Warns Hospitals on Foreign MDs

Hospitals employing graduates of foreign medical schools who fail to meet certain requirements by December 31 will face action by the American Hospital Association. At that time, the AHA will cease listing hospitals which employ in patient-care situations foreign medical graduates who have not been certified by the Educational Council for Foreign Medical Graduates, Dr. Edwin L. Crosby, AHA director, said. The AHA ruling follows that of the American Medical

Association, which has stated that it will withdraw approval of internships and residencies in hospitals employing foreign graduates after July 1, unless the appointees meet the requirements.

Foreign graduates who are not in situations where they give direct care to the patient—research, for instance—are exempt from certification. Graduates of Canadian and Puerto Rican medical schools are considered to be graduates of American schools.

Government Notes

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE. . . . *The Mental Health Research Grant Program of the National Institute of Mental Health*, designed to assist scientists in universities and other research centers in their efforts to find answers to the many unsolved problems of mental illness, is recruiting several additional members to expand its program development staff. Individuals representing such disciplines as experimental psychology, child psychology, social psychology, clinical psychology, sociology, psychiatry, biochemistry, and biology, are needed.

The Branch is also seeking additional staff assistants to participate in the administration and review of research grant and fellowship applications in the behavioral, social, and biological sciences. Technical writers are also needed to analyze research grant reports and translate the highly technical material into an interesting and comprehensive form. A program analyst with experience in data storage and retrieval, or documentation, to participate in a program of analysis and evaluation of research grants and to supervise a team of coders is another of the positions open.

Interested individuals may obtain further information by writing to Mrs. T. W. Pollock, Administrative Officer, Research Grants and Fellowships Branch, National Institute of Mental Health, Room 2504A, Building T-6, Bethesda 14, Md.

Public Health Service, NIH. . . . Acting Surgeon General John D. Porterfield of the Public Health Service has announced the award of eight special research grants totaling $2,974,408 to assist in the establishment of clinical research centers. The awards, the first of their kind, will provide a new type of resource permitting intensive controlled study of a limited number of patients as part of the clinical research activity of the institutions receiving the grants. Dr. Porterfield pointed out that the financing of these clinical research centers is focused on resources that will permit more effective development of broad programs of clinical research, and not on the support of individual research projects. The following medical schools are recipients of the grants: University of Southern California, Emory University, Johns Hopkins University, University of Michigan, Washington University, New York University, University of Pennsylvania, and the University of Washington.

DEPARTMENT OF THE ARMY, *Office of the Surgeon General . . .* Dr. John B. Youmans, Technical Director of Research to the Office of the Army Surgeon General, was awarded the Groedel Medal, the highest award of the American College of Cardiology. Dr. Youmans was presented the silver medal, on May 27, at the meeting of the American College of Cardiology in Indianapolis, at which time he addressed the College on "The Humanities in Medicine." Dr. Youmans is former dean of the Vanderbilt University School of Medicine and served as President of the Association of American Medical Colleges for the year 1956–57.

PERSONNEL EXCHANGE

Faculty Vacancies

MEDICAL DIRECTOR: Professional Services, large affiliated VA General Hospital. Certified specialist with more than casual experience residences and research, and flair for administration. Faculty appointment appropriate for qualifications. Active expanding research program. Ambitious, mature personality. Salary, $14,685-$16,000. Address: V-85.

OBSTETRICIAN-GYNECOLOGIST: Full-time teacher, administrator and investigator for department with active student and house staff program in well known medical school and affiliated hospitals in New York City. Must be interested in academic medicine. Rank and salary will depend upon qualifications. Age—preferably under 35. Address: V-86.

BACTERIOLOGIST: University Hospital at Saskatoon, Saskatchewan, Canada, now has a vacancy for an assistant bacteriologist. This appointment also carries a university teaching position. Salary $8,000–$10,000 per annum. Applicants should have hospital and teaching experience. Applications stating date of birth, qualifications, experience, present appointment, and the names of three references should be sent to the Director of Bacteriology, University Hospital, Saskatoon, Saskatchewan, by April 15, 1960.

NEUROLOGIST-INFECTIONIST: Two geographical full-time positions in a 400-bed general hospital with medical school faculty appointments. Duties to include teaching; research will be encouraged. Large Eastern city. Address: V-87.

INTERNIST: Board eligible or board certified, to work with a team in the supervision and management of cardiovascular patients on a home care research and demonstration project at East Coast medical school. Training in cardiovascular diseases desirable. Geographic full-time appointment available. Address: V-88.

ASSISTANT PATHOLOGIST: Three-hundred bed GM & S university affiliated hospital. Salary rate varies from $9,890.00 to $11,355.00 plus 15% if certified by the American Board of Pathology. Apply to J. Mendeloff, M.D., VA Hospital, Atlanta, Ga.

DIRECTOR, MEDICAL EDUCATION: Available July 1, 1960. Newly created position; 312 bed general hospital, fully approved, school of nursing; intern and resident training program. Duties include supervision of intern and resident training, supervision of medical library, serve as chairman of department of medical education, and as coordinator of conferences and all formal staff meetings. Salary open. Apply to Paul G. Wedel, Administrator, The Williamsport Hospital, 777 Rural Ave., Williamsport, Pa.

PHYSIATRIST: Board certified or eligible, for academic appointment in rapidly expanding new department; medical and physical therapy schools, large East Coast city. Excellent opportunity to combine teaching, clinic work and private practice. Address: V-89.

BIOCHEMIST-MICROBIOLOGIST: Position available in medical school pharmacology department for research iasociate in problems concerned with microbial metaboism, particularly degradation of pharmacologically active compounds. Ph.D. or M.D. with training in microbiology and enzymology. Salary $6,500–8,050 depending on background. Faculty rank with teaching activities optional. Address: V-90.

DIRECTOR OF MEDICAL EDUCATION: Internal medicine specialist preferred for full-time position in 320-bed hospital. Hospital has university affiliation. Beginning salary $18,000 per year. Address: V-91.

PSYCHIATRISTS: Geographical full-time faculty appointments available; one position open in Division of Child Psychiatry and two positions open in Division of Adult Psychiatry, University of Minnesota Medical School. Academic rank and university salary open to negotiation on basis of professional attainments. Opportunities for teaching, research and some private practice. Write to Dr. Donald W. Hastings, Box 393 Mayo Memorial Hospital, Minneapolis 14, Minn.

BIOSTATISTICIAN: Ph.D. Research in child growth studies; opportunities for varied consultation and teaching at Dental School located in large medical center; modern computing facilities available. Salary, from $9,000 and academic rank dependent upon qualifications. Write to Dr. Bhim Savara, Head of Dept., Child Study Clinic, University of Oregon Dental School, 611 S.W. Campus Drive, Portland 1, Oregon.

PHYSIATRIST: Board certified, mature personality, Chief, Physical Medicine and Rehabilitation Service, large affiliated general VA Hospital, Southwest Challenging residency and research programs. Qualified for professorial appointment. Salary $14,685 to $16,000. Address: V-92

DIRECTOR OF PROFESSIONAL SERVICES: Large affiliated VA General Hospital. Certified specialist with more than casual experience residencies and research, and flair for administration. Faculty appiontment appropriate for qualifications. Active expanding research program. Ambitious, mature personality. $14,685–$16,000. Address: V-93.

PSYCHIATRIST: Full-time academic opportunity for a Board Certified psychiatrist seeking a career in teaching and research in a long established medical school in the Northeast undergoing expansion. Would direct an Out-Patient (adolescent and adult) Psychiatric Clinic team of physicians, psychologists and social workers, and teach groups of senior medical students and psychiatric residents with assistance of eight Board Certified part-time instructors. A limited amount of private practice and consultation work is allowed in addition to salary in the $14,000–$20,000 range; starting figure and academic rank depending upon training and experience. Write to W. L. Holt, Jr., M.D., professor of psychiatry, Albany Medical College, Albany, N.Y.

ANATOMIST: Assistant professor required for teaching gross anatomy. Excellent research opportunities in other branches of anatomy (electron-microscopy, histology, experimental pathology, tissue culture). Salary, $7,300–$8,500 depending on experience and qualifications. Write to R. Altschul, M.D., Department of Anatomy, University of Saskatchewan, Saskatoon, Canada.

ANATOMIST: Medical school in Midwest with excellent research facilities for neurophysiological studies. Teaching assignments in gross and neuroanatomy. Rank and salary dependent upon qualifications. Address: V-94.

To aid in solution of the problem of faculty vacancies, MEDICAL EDUCATION will list persons and positions available, as a free service. The school department or person may have the option of being identified in these columns or of being assigned a key number for each position listed. Mail addressed to key numbers will be forwarded to the person or department listing the request.

Information for these columns should reach the Personnel Exchange, Journal of Medical Education, 2530 Ridge Avenue, Evanston, Illinois, not later than the 10th of the month which precedes the month in which the listings will appear.

Personnel Available

MICROBIOLOGIST-CLINICAL PATHOLOGIST: M.D., Ph.D., age 54, married. Wide experience in teaching and research in the United States. Returning after several years of teaching in medical schools in the Far and Middle East. Textbook in course of publication. Desires research or teaching position in medical school or in teaching hospital. Address: A-420.

PATHOLOGIST-VIROLOGIST: DVM, Ph.D. Experience in comparative pathology, virology and tissue culture techniques. Also considerable experience in teaching experimental pathology to medical students. Desires teaching appointment in a medical school that would provide opportunity for completion of courses leading to M.D. degree. Address: A-421.

PSYCHIATRIST: Board certified, with training in both general clinical psychiatry and public health psychiatry (M.P.H. degree). Six years' experience in administering a community-oriented psychiatric training program in an academic setting. Broad range of personal service in teaching, supervisory, and consultative capacities. Dynamic orientation. Numerous research publications. Age under 40. Currently assistant professor at medical school. Desires full-time faculty appointment at higher level. Address: A-422.

PSYCHIATRIST: Board certified in psychiatry and child psychiatry (pending). Eight years experience in teaching at student and resident level in adult and child psychiatry in academic setting. Broadly experienced in teaching, supervisory, and consultative capacities. Analytic orientation. Nine publications. Experience in administering child guidance clinic and in community aspects of psychiatry. Has held position as associate professor of psychiatry; wishes to head up division of child psychiatry in medical school in either true or geographic full-time position. Metropolitan area preferred. Age 45; married; 4 children. Address: A-423.

PHYSIOLOGIST-PHARMACOLOGIST: M.D., Ph.D., age 40 Teaching and research experience includes six years in pharmacology and six years in physiology, with one year training in laboratory of high polymer chemistry. Desires academic and research position in physiology or pharmacology department. Address: A-424.

INTERNIST: Board certified, university trained, with one year training in clinical cardiology and one year in cardiovascular laboratory. Presently holding position as university instructor. Desires faculty appointment with teaching and research in clinical cardiology and electrocardiography. Address: A-425.

ANATOMIST: Ten years teaching experience; all phases of medical school anatomy. Broad research interests with grant support in gross anatomy and histology. Desires university appointment. Northeast or northwest preferred. Address: A-426.

ZOOLOGIST: Ph.D., age 43, married, family. Desires teaching microanatomy in medical school. Experience: medical school teaching (medical parasitology); USPHS senior assistant scientist, foreign experience as malariologist; undergraduate teaching, including 6 years instructing pre-medical students in histology. Publications, active research program; current interest: histochemistry techniques in study of cellular basis of resistance to a parasitic infection. Willing also to instruct in parasitology, if situation permits. Available with one semester notice to present employer. Address: A-427.

ANATOMIST: M.B., Ch.B. (Witwatersrand, Johannesburg, South Africa), F.R.C.S. (Edinburgh). Age 52, desires position in medical school as senior lecturer in anatomy. Presently located at University of The Witwatersrand as official lecturer in anatomy; part-time senior lecturer in gross and applied anatomy since 1949. Publications. Surgeon to Union Defence Forces, 1940–46 with rank of major. In private practice as a general surgeon since 1946. Address: A-428.

PHARMACOLOGIST-CLINICAL: M.D., Ph.D., age 33, licensed physician. Publications, academic and industrial experience, some psychiatric training. Desires teaching position. Address: A-430.

HUMAN GENETICIST: Ph.D., age 36, seven years experience at leading human genetics center, including heredity clinic service, population surveys of hereditary traits, and statistical analyses. Fourteen publications. Desires permanent university position, preferably research and teaching. Address: A-431.

CERTIFIED INTERNIST: Age 38, experienced in diabetes, endocrinology, radioisotopes (licensed by AEC). Several years direction of medical residency training program, and radioisotope unit in large teaching hospital, and Assistant Professor of Medicine in charge of student diabetes clinics. Now in private practice. Desires return to full-time teaching hospital and/or medical school. Address: A-433.

GROSS ANATOMIST: Ph.D. Eight years teaching experience; desires academic position in medical or dental school. Available summer 1960. Address: A-434.

PHYSIOLOGIST-BIOCHEMIST: Ph.D. Faculty member medical school. Interdisciplinary major grant research program (3 technicians) in basic and clinical aspects of endocrine physiology, metabolism, biochemistry. Publications, societies, radioisotope experience, training in statistical design. References. Desires faculty career appointment teaching physiology and/or biochemistry with facilities and climate to develop research program. Address: A-435.

INTERNIST: M.D., age 35. Currently on faculty of Eastern medical school. Experience in private practice and industrial medicine. Eight months experience and training in psychiatry. Desires faculty appointment with opportunity for clinical investigation in cardiovascular diseases, as well as teaching general medicine in teaching hospital. Address: A-436.

BIOCHEMIST-ENZYMOLOGIST: Six years teaching and research experience in medical school. Currently assistant professor in Eastern medical school. Available summer, 1960. Desires relocating with appointment in medical school or research institute. Address: A-437.

PHYSIOLOGIST: Ph.D., leading university. Well trained in biological, physical and chemical sciences. Highest scholastic honors, scholarships, former National Research Council Fellow. Well developed research program on the physiology of growth and aging. Offices held in national scientific societies. Present appointment, associate professor in medical college. Currently in charge of teaching. Seeking appointment with major administrative-teaching responsibilities, with opportunity to continue expanding research study, preferably in the West. Minimum entering salary $12,000. Available Fall, 1960. Address: A-438.

PEDIATRICIAN: Professor and department head. Wishes to relocate for personal reasons. Ten years at present post. Age 43. Numerous publications. Would first consider university or educational foundation position; then, hospital educational program or industry affiliation. Address: A-439.

SURGEON: Cardiovascular and thoracic. M.D. 1947 American medical school. Presently located at Canadian hospital as research fellow in cardiovascular surgery. Desires position in thoracic and cardiovascular surgery, either at clinical level, or in teaching and research. Diplomate, American Board of Surgery. Address: A-440.

HISTOLOGIST-ENDOCRINOLOGIST: Also histochemist-electron microscopist. Age 32; Ph.D., Harvard. Publications, grants and cancer research. Six years teaching experience in histology, embryology and histochemistry. Desires associate professorship or full time research position in a medical school in department of anatomy, biochemistry, pathology or allied clinical science. Address: A-441.

INTERNIST-HEMATOLOGIST: Age 37, Board certified. Interested in all phases of clinical, laboratory, and research hematology, seeking academic position. Experience includes 6 years academic type practice in internal medicine and hematology; brief private practice; research during military service. Address: A-442.

INTERNIST: Experienced in teaching, clinical investigation (metabolism), patient care, and administration. Desires full-time post with teaching hospital-medical school. Age 40. Address: A-443.

PHYSIOLOGIST-PHARMACOLOGIST: Ph.D., 1954. Male, family. Eleven years teaching experience, currently teaching physiology in dental school. Desires academic position with or without research opportunities. Address: A-444.

ANATOMIST: M.B.B.S., University of Karachi, 1955. Four years teaching experience. Currently with anatomy department in a Pakistan medical school. Desires anatomy instructorship in medical school or university, preferably in northern United States, and opportunity to do summer graduate work. Address: A-445.

INTERNIST: Age 33; certified in medicine. Trained in clinical medicine, teaching and research at university hospital and the N.I.H. Director of medical education at university affiliated hospital in New York City for past three and one-half years. Experience in private practice and epidemiology. Desires geographic full-time position at medical school or hospital, with opportunities for teaching and research as well as consultation and imited practice privileges. Address: A-446.

PREVENTIVE MEDICINE PHYSICIAN: M.D., M.P.H. and Dr. P.H. Desires teaching position on medical school faculty. Numerous publications. Previous teaching and health department experience. Special interests are epidemiology, biostatistics, and preventive medicine. Address: A-447.

PSYCHIATRIST: Age 35; board certified, prefers geographic full-time position at level of assistant professor or higher. Presently teaching part-time as clinical instructor. Experience as hospital out-patient clinic director and director of professional education in State hospital. Established in-patient adolescent service. Married, 5 children. Five articles. Address: A-448.

BACTERIOLOGIST-IMMUNOLOGIST: Ph.D. Married, family. Eleven years experience in clinical bacteriology, serology, and blood grouping and as Director of the blood bank. Extensive teaching experience at medical school level. Publications. Desires hospital position with research potential and university faculty status. Address: A-449.

PHYSICIAN: M.Sc., M.D., age 38, presently on staff of Australian university, desires teaching position in department of medicine at American university. Trained in England and United States. Numerous publications; broad background. Speciality, cardio-vascular diseases. Address: A-450.

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ECZEMA

and other major symptoms of cow's milk allergy

Kane[1] fed Sobee to 76 eczematous infants ranging in age from 1 week to 9 months. Marked improvement occurred in 75 of the 76 infants.

For prevention: When allergic disease exists in parents or siblings, it is advisable to start the "potentially allergic" infant on Sobee.

For diagnosis: If cow's milk allergy is suspected, a 24- to 48-hour trial period with Sobee may eliminate the need for an allergy study.

Sobee (liquid and "instant" powder) has a pleasant and bland taste.

1. Kane, S.: Am. Pract. & Digest Treat. 8: 65 (Jan.) 1957.

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